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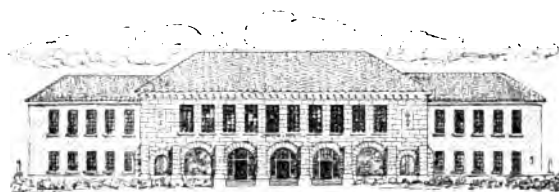
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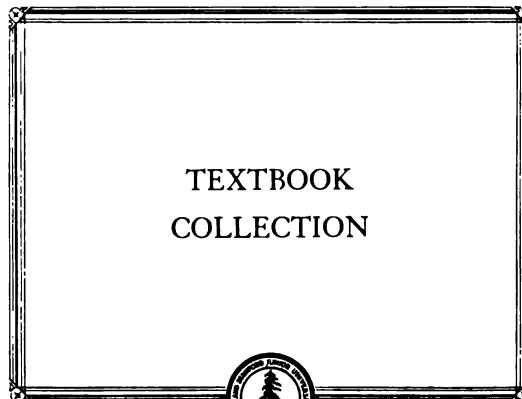
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GRAMMAR-SCHOOL

GEOGRAPHY

Physical, Political, and Commercial

BY

WILLIAM SWINTON

GOLD-MEDALIST FOR GEOGRAPHY, PARIS EXPOSITION, 1878, AND AUTHOR OF SWINTON'S GEOGRAPHICAL SERIES, WORD-BOOK
SERIES, OUTLINES OF THE WORLD'S HISTORY, ETC.

DEPARTMENT OF EDUCATION
LELAND STANFORD JUNIOR UNIVERSITY

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PREFACE.

THIS "Grammar-School Geography" is intended as the higher book of a two-book series, in which the author's "Introductory Geography" is designed to serve as the elementary manual.

In the "Complete Course in Geography" (first published in 1875) a leading aim of the author was to realize what he deemed a great desideratum in the treatment of the geography of the United States. This want, and his own plan for filling it, he indicated in the following sentences in the Preface to the work just named:—

"The need of a much more minute and detailed study of local geography than is possible with existing text-books is becoming deeply felt. The dozen or the score of vague, because generalized and colorless, lines usually devoted to great states like New York or Pennsylvania, Ohio or Illinois, are poorly fitted to furnish a pupil with such equipment of geographical knowledge as is necessary either for practical use or ordinary intelligence. In the present book an effort is made to meet the desideratum of fullness on each state, and at the same time to avoid the danger of overtaking the pupil by the device of a double text on the United States. There is in the case of each state, 1. A general text, which comes first, and is printed in the larger type: this is to be studied by *all classes*. 2. A special geography of each state, which is designed for use only by classes in the state under review. It is hoped that the elastic arrangement of a general and a special text will meet all requirements."

The plan received the emphatic approval of teachers, and this approval has resulted in the adoption of the "Complete Course" to an extent unsurpassed, if not unparalleled, in the history of geographical publication. It is, indeed, the very fullness of acceptance accorded the theory of an enlarged text of the states that has prompted the publication of the present work; for it soon became manifest that a still more liberal allowance of special state geography than even that given in the volume just named was called for by many teachers. In order to supply this demand, the author has in this book adopted the plan of confining to a general treatment the text of the several states, supplementing this in special editions by the detailed geography of individual states or sections. To those who prefer this arrangement the "Grammar-School Geography" will commend itself, while teachers who desire a somewhat full

exposition of the geography of all the states will find their wish met in the "Complete Course." It will thus be seen that the two are independent books, differing in structure because educationists differ in taste.

To this explanation of the relation of the present work to the other works of the geographical series by the same author may now be added a few words as to the general plan of the book.

The "Grammar-School Geography" aims to strike a just balance between conflicting theories of geographical teaching, and to embody what is best in the modern methods. There are those who regard Physical Geography as the all in all, and those who regard Political Geography as the all in all. The author has sought to avoid the one-sidedness of each. Physical and so-called "Political" Geography are treated as inseparable, as one subject, and the two so blended that the physical aspects and attributes of the globe and man's doings on its surface present themselves to the pupil's mind, not as isolated phenomena, but as a connected whole.

For the study of the Physical Geography of the several grand divisions provision has been made in special maps, unencumbered by the names of countries or places, but presenting in clear view the natural features of the continent, its vegetable products, its characteristic animals, and its mineral resources. The physical maps are further supplemented by relief views, which are of striking value in presenting to the eye the great surface-features of the land masses. A series of systematic questions and exercises faces each of the physical maps. The Physical Geography, though necessarily brief, presents a condensed view of the contour, surface, drainage, vegetation, animals, and resources of each of the grand divisions. It is freed from needless technicalities, and fitted for easy comprehension by pupils in the grades for which this book is designed.

The Political Geography, or descriptive text of countries, follows the Physical Geography of the grand divisions. The aim here has been to make a compact text, in which the major factors of a nation's civilization—its resources, industries, and commerce—shall be brought prominently to view; and, for

the fuller treatment of these, space is gained by the omission, first, of all merely topographical matter (a knowledge of which is gained from the study of the map), and, secondly, by the complete ignoring of the conventional jejune accounts of ethnological characteristics, manners, customs, religions, etc. The descriptive text is accompanied by political maps, the study of which is secured by full and varied exercises. Where the importance of particular countries demands it, special maps are given. Thus, in the case of Europe, in addition to the general physical and political maps, special maps are added of Great Britain and Ireland, France and Switzerland, the German Empire, Belgium and the Netherlands, Austro-Hungary, and the Turkish Empire. So, in the case of Africa, the general physical and political map is supplemented by a special map of Equatorial Africa, showing the latest results of discovery and exploration, thus giving us a chart well studded with names of peoples and cities, where, till lately, in the words of Swift, geographers

"O'er unhabitable downs
Place elephants for want of towns."

The treatment of commercial and industrial geography is, perhaps, the feature which most markedly distinguishes this volume from the old-style text-books. A knowledge of these important but neglected subjects is secured, first by a careful statement of the industries of each country and the kind of productions it sends into the channels of trade, and, secondly, by a comprehensive view of the commerce of the world presented in a map showing the one hundred principal seaports, the articles

shipped from each, the steamer routes, submarine cables, and international lines of telegraphic communication. Ample exercises, topically arranged, accompany the map. In like manner, the domestic and foreign commerce of the United States is illustrated by a map showing the areas of the great staples, and productive resources, — the regions of corn, wheat, sugar, tobacco, stock-raising, coal, iron, and other mineral deposits, the lines of railroad that transport these articles to the seaboard, and the ports from which they are shipped.

Great care has been taken, in the construction of this work, to make it in the best sense a *text-book*. Among the features which it is hoped teachers will notice with satisfaction are the following two: 1. The paragraphs are cast in a form convenient both for memorizing and recitation. By introducing each paragraph with bold type, a suitable question spontaneously frames itself in the minds of pupil and teacher, thus obviating the old and inconvenient form of questions far removed from the text. 2. The method of study pursued by the best teachers being largely topical, ample provision has been made to further this plan, by numerous carefully constructed topical synopses, reviews, tables, and questions.

A high standard of excellence in the artistic, cartographic, and mechanical execution of geographical text-books has recently been established. To this fact due regard has been had by the publishers; and the merits of the "Grammar-School Geography" in the particulars just named will be sufficiently evident to those who examine it.

WILLIAM SWINTON.



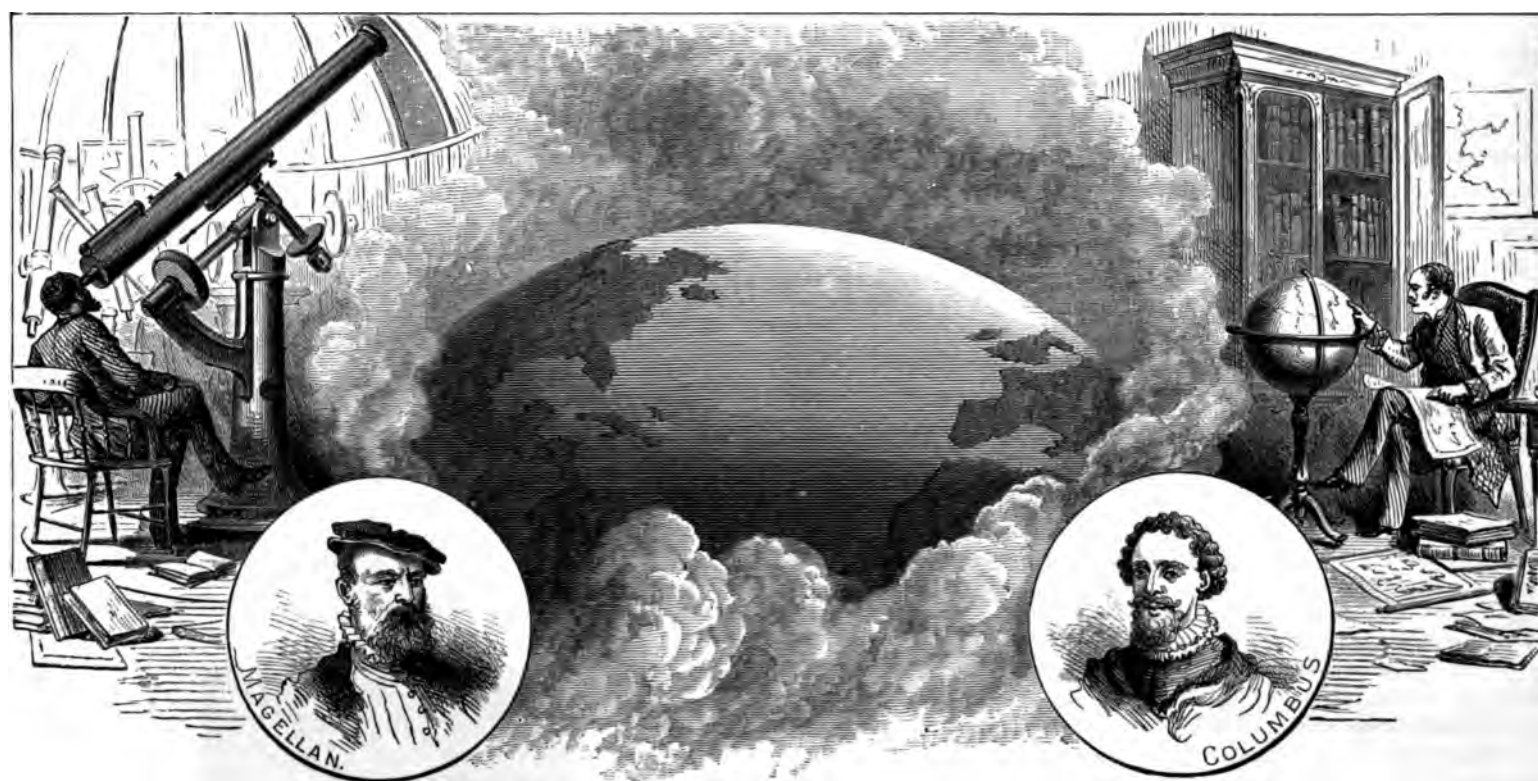
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GEOGRAPHY.



INTRODUCTION.

GEOGRAPHY AND ITS DIVISIONS.

1. **Geography** is a description of the earth, of its surface and the countries into which it is divided, and of the people that inhabit them.

2. **Its Divisions.**—The earth may be considered in three different relations: 1. In its relation to the solar system; 2. In its relation to nature; 3. In its relation to man.

Hence arise three divisions of geography,—*Mathematical Geography*, *Physical Geography*, and *Political Geography*.

3. **Mathematical Geography** treats of the earth as a planet,—its form, size, and motions; its division by circles;

and the art of constructing maps with the aid of these circles.

4. **Physical Geography** treats of the earth in its natural divisions, and its relations to the physical laws by which it is governed.

5. **Political Geography** treats of the earth as divided into countries, and of the condition of the people inhabiting them.

6. **Illustrations.**—That the United States is in the North Temperate Zone is a fact of *Mathematical Geography*; that off the eastern coast of the United States is an ocean current called the Gulf Stream, which modifies our climate, is a fact of *Physical Geography*; that the United States is a republic is a fact of *Political Geography*.

DEFINITIONS IN MATHEMATICAL GEOGRAPHY.

REFERENCE TABLE OF GEOMETRICAL TERMS.

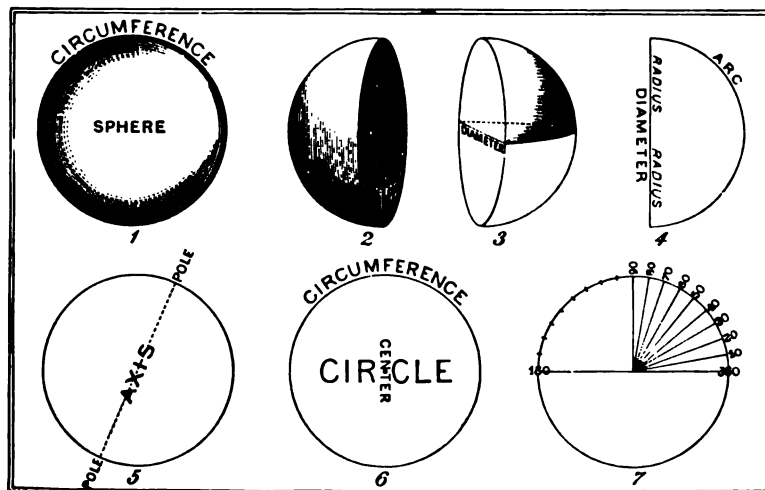


DIAGRAM OF MATHEMATICAL FIGURES.

7. A **plane** is a surface upon any part of which, and in any direction, a straight line may be drawn.

8. A **circle** is a plane bounded by a curved line all points of which are equally distant from a point within called the center.

9. The **circumference of a circle** is the curved line which bounds it.

Though in geometry there is the distinction above noted between a circle and its circumference, in geography the term "circle" is generally used as synonymous with "circumference."

10. A **sphere** is a solid bounded by a curved surface all points of which are equally distant from a point within called the center.

11. The **diameter of a sphere** is a straight line passing through the center, and terminating at both extremities in the surface.

12. The **axis** is that diameter of a sphere upon which it rotates.

Rotation is the turning of a body upon its axis.

Revolution is the movement of a body or point around another body or point.

13. The **poles** are the points on the surface of a sphere at the extremities of its axis.

14. Circles of the sphere are divided into great circles and small circles.

15. A **great circle** is one that divides a sphere into two equal parts.

16. The **circumference of a sphere** is the circumference of any of its great circles.

17. A **small circle** is one that divides a sphere into two unequal parts.

18. **Degrees** — Every circle (circumference), whether great or small, is divided into 360 equal parts, called degrees, and marked thus, 360° . The $\frac{1}{60}$ part of a degree is called a minute, marked thus, $1'$. The $\frac{1}{3600}$ part of a minute is called a second, marked thus, $1''$.

I.

SHAPE, SIZE, AND MOTIONS OF THE EARTH — DIRECTION

I. SHAPE OF THE EARTH.

19. The shape of the earth is nearly that of a ball or sphere; in exact terms, an *oblate spheroid*.

Spheroid means like a sphere; *oblate* means flattened at two opposite sides; and an *oblate spheroid* contrasts with a *prolate spheroid*, which is a sphere extended at any two opposite sides. An orange is an example of an oblate spheroid; and a lemon, of a prolate spheroid.

II. SIZE OF THE EARTH.

20. The circumference of the earth is nearly 25,000 miles; its diameter nearly 8,000 miles.

I. The earth, being flattened at the poles, has a longest and a shortest diameter, and consequently a greatest circumference. The exact figures are, —

Longest diameter (equatorial) . . . 7,925.65 miles.	} Difference of 26.48 miles.
Shortest " (axial) . . . 7,899.17 "	
Greatest circumference . . . 24,899 "	

The difference between the longest and shortest diameter is so slight, that, upon a globe six feet in diameter, it would be represented by about one-fourth of an inch.

II. The surface of the earth contains nearly 200,000,000 square miles.

III. MOTIONS OF THE EARTH.

21. The earth has two motions, — the diurnal and the annual motion.

22. The **diurnal motion** of the earth is its daily rotation on its axis (Def. 10).

The direction of the rotation is from west to east, causing the sun to appear to rise in the east, and set in the west.

23. The **principal effect** of the diurnal motion of the earth is the alternation of day and night.

24. The **annual motion** of the earth is its revolution around the sun in a period of nearly 365 $\frac{1}{4}$ days.

The earth's orbit is its path around the sun, and the plane of its orbit is the level surface included within the orbit. The earth's axis inclines $23\frac{1}{2}$ degrees from a perpendicular to the plane of the orbit. This inclination is the same in every part of the orbit, because the axis continually points in the same direction.

25. The **principal effect** of the annual motion of the earth, in connection with the inclination and unvarying direction of the earth's axis, is the change of seasons.

IV. POLES AND DIRECTION.

26. The **poles** of the earth (Def. 11) are named the North Pole and the South Pole. The North Pole is the pole nearest the North Star; the South Pole is the opposite extremity of the earth's axis.



THE NORTH STAR.

The North Star is a bright star in the constellation of the Lesser Bear (Ursa Minor). Two stars called the Pointers, in the constellation of Ursa Major, point very nearly to this star.

27. **Direction** on the surface of the earth is named with reference to the points of the horizon, or circle where the earth and the sky seem to meet.

North is that point of the horizon towards which one's shadow falls at noon. South is the opposite point.

Facing the north, the right hand is towards the east, the left hand towards the west.

I. The *cardinal points* are north, south, east, and west. The *semi-cardinal points* are those midway, namely, north-east, south-east, south-west, and north-west.

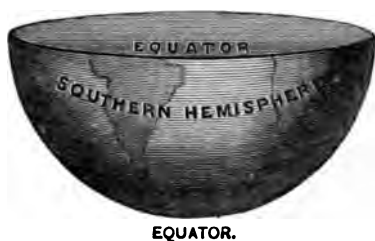
II. The *compass* is an instrument by which the points of the horizon may be exactly ascertained. It consists of a card, representing the horizon, and marking the cardinal and semi-cardinal points. Over this, and swinging freely on a pivot, is a magnetic needle, which has the remarkable property of pointing nearly to the north.

II.

GEOGRAPHICAL CIRCLES.

I. KINDS OF CIRCLES.

28. **Geographical circles** are lines imagined to be drawn on the surface of the earth. They consist of great circles (Def. 15) and small circles (Def. 17).



EQUATOR.

29. The **great circles** are the Equator and the meridian circles. The small circles are the parallels.

II. EQUATOR AND MERIDIANS.

30. The **Equator** is the great circle midway between the poles. It divides the earth into a Northern and a Southern Hemisphere.

31. **Meridian circles** are great circles crossing the Equator at right angles, and intersecting at the poles. Each meridian circle divides the earth into an Eastern and a Western Hemisphere.

32. A **Meridian** is half a meridian circle, and extends from pole to pole.



MERIDIANS.

III. PARALLELS.

33. **Parallels** are small circles parallel to the Equator. They comprise the tropics, the polar circles, and the parallels of latitude.

34. The **tropics** are two parallels, each $23\frac{1}{2}^{\circ}$ from the Equator. The tropic $23\frac{1}{2}^{\circ}$ north of the Equator is called the

Tropic of Cancer; the tropic $23\frac{1}{2}^{\circ}$ south of the Equator is called the Tropic of Capricorn.

35. The **polar circles** are two parallels, of which the northern, $23\frac{1}{2}^{\circ}$ from the North Pole, is called the Arctic Circle; and the southern, $23\frac{1}{2}^{\circ}$ from the South Pole, the Antarctic Circle.

III.

LATITUDE AND LONGITUDE.—ZONES.

I. GEOGRAPHICAL POSITION.

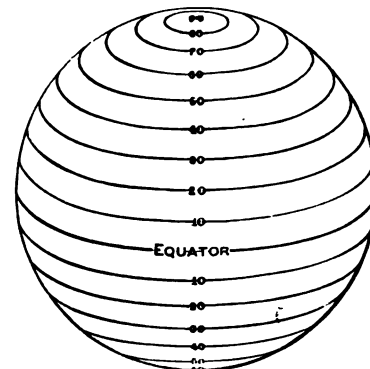
36. **Geographical position** is determined by means of parallels and meridians, and is stated in terms of latitude and longitude.

II. LATITUDE.

37. **Latitude** is distance north or south from the Equator. It is represented on globes and maps by parallels of latitude, and is reckoned in degrees.

38. **Latitude is reckoned** thus: North latitude, from the Equator, where the latitude is zero, to the North Pole, which is in 90° north latitude; south latitude, from the Equator to the South Pole, which is in 90° south latitude.

The length of the degrees of latitude is about 69 statute miles.



PARALLELS OF LATITUDE.

III. LONGITUDE.

39. **Longitude** is distance east or west from some chosen meridian, called the prime meridian. It is measured in degrees on any parallel or on the Equator.

Prime Meridians.—The meridian of the British Royal Observatory at Greenwich, near London, Eng., is the prime meridian generally used. The meridian of Washington also is used in our country. In this book the numbers at the top of the maps indicate longitude counted from the Greenwich meridian; and those at the bottom, longitude counted from the Washington meridian.



MERIDIANS OF LONGITUDE.

40. **Longitude is reckoned** from the prime meridian, where the longitude is zero, both eastward and westward half-way round the globe. Thus there are 180° of east longitude, and 180° of west longitude.

I. The length of a degree of longitude at the Equator is $69\frac{1}{2}$ statute miles: but, as the meridians gradually approach one another till they meet at the poles, the length of a degree of longitude decreases proportionately, and at the poles the longitude is zero.

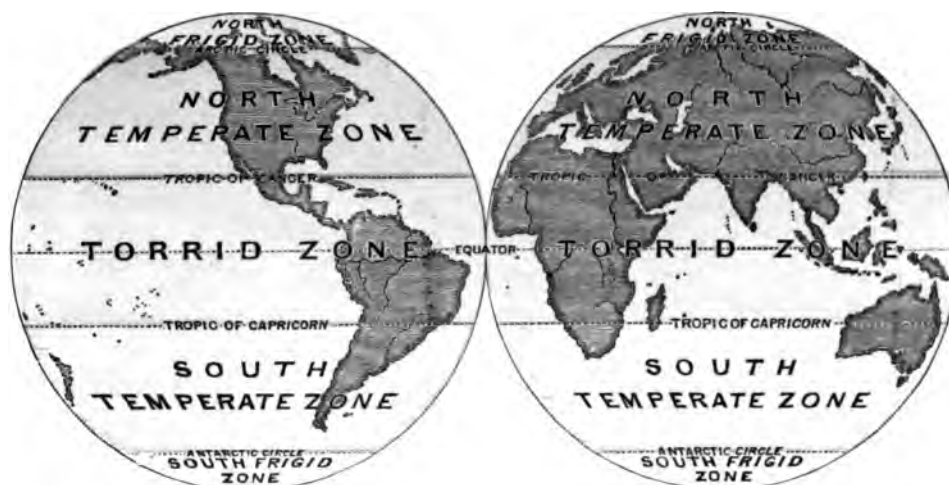
II. If the figures or degrees marked on the Equator to measure longitude increase from left to right, the longitude is east; if from right to left, it is west.

IV. ZONES OF CLIMATE.

41. The **zones of climate** are broad belts of the earth's surface parallel to the Equator, and bounded by the tropics and the polar circles.

42. The zones are five,—one Torrid, two Temperate, and two Frigid Zones.

43. The **Torrid Zone** extends from the Tropic of Cancer to the Tropic of Capricorn, or 47° = about 3,250 miles.



THE ZONES.

The Torrid Zone is marked by great and uniform heat, with two seasons,—the rainy and the dry season. The days and nights vary little in length.

44. The **Temperate Zones** lie between the tropics and the polar circles,—the North Temperate Zone, between the Tropic of Cancer and the Arctic Circle; and the South Temperate Zone, between the Tropic of Capricorn and the Antarctic Circle. Each is 43° (= nearly 3,000 miles) wide.

The Temperate Zones are marked by the four seasons, with hot summers and cold winters. The days and nights vary in length more than in the Torrid Zone.

45. The **Frigid Zones** are distinguished as the North Frigid Zone, between the Arctic Circle and the North Pole; and the South Frigid Zone, between the Antarctic Circle and the South Pole. Each extends $23\frac{1}{2}^\circ$ from the pole as its center.

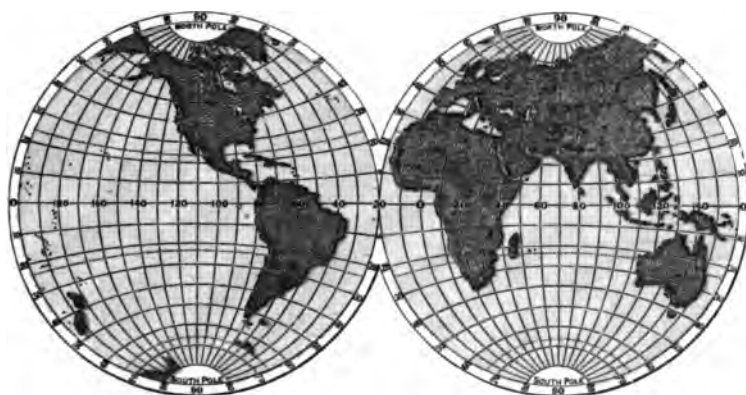
The Frigid Zones are marked by a long and intensely cold winter, and a short, though comparatively warm, summer. The days lengthen towards the poles, where day and night are each six months in length.

IV.

MEANS OF GEOGRAPHICAL STUDY.

I. GLOBES AND MAPS.

46. A **terrestrial globe** is a sphere representing the form of the earth, the geographical circles, and the outlines of the earth's surface.



HEMISPHERE MAP

47. A **map** is a representation of the whole or part of the earth's surface on a plane (Def. 12).

II. MAP OF THE WORLD.

48. A representation of the entire surface of the earth on a plane is generally made in one of two ways :—

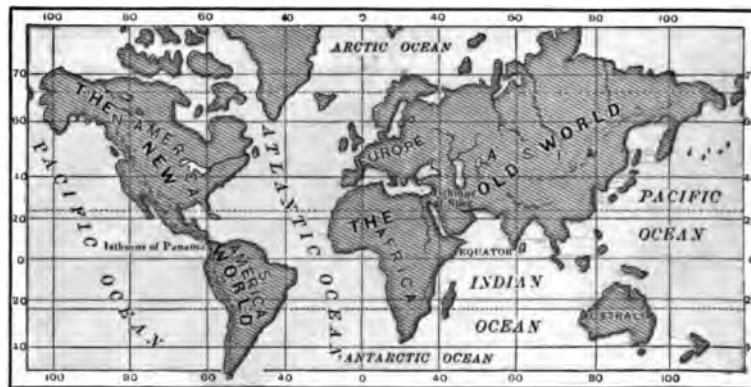
49. **First Method.**—By the **hemisphere map**, in which the sphere of the earth is assumed to be divided into an Eastern and a Western Hemisphere. Each of these is represented by a circle, within which the geographical lines and the surface-outlines are drawn.

I. The Eastern Hemisphere comprises that half of the earth's surface (180° degrees) extending from the 20th meridian west of Greenwich eastward to 160° east longitude. The Western Hemisphere comprises that half of the earth's surface (180° degrees) extending from the 20th meridian west of Greenwich westward to 160° east longitude.

II. This meridian was originally chosen by geographers as the line of separation between the two hemispheres, because it was supposed to pass through Ferro (one of the Canary Islands), the most western land known to the ancients. The permanent convenience of the selection, however, is that it permits nearly the whole of the Eastern Continent to be represented in the map of the Eastern Hemisphere, and the whole of the Western Continent in that of the Western Hemisphere.

III. It will be observed, (1) that the parallels do not seem to be parallel with one another,—they are drawn as they are, in order to represent the rotundity of the earth; (2) that the meridians are drawn from top to bottom in such a way as to show the globular form of the earth,—they must all, however, be *supposed* to cross the Equator at right angles, and the *direction of the meridians indicates due north and south*.

50. **Second Method.**—By **Mercator's map**, in which the form of the earth is assumed to be that of a cylinder.

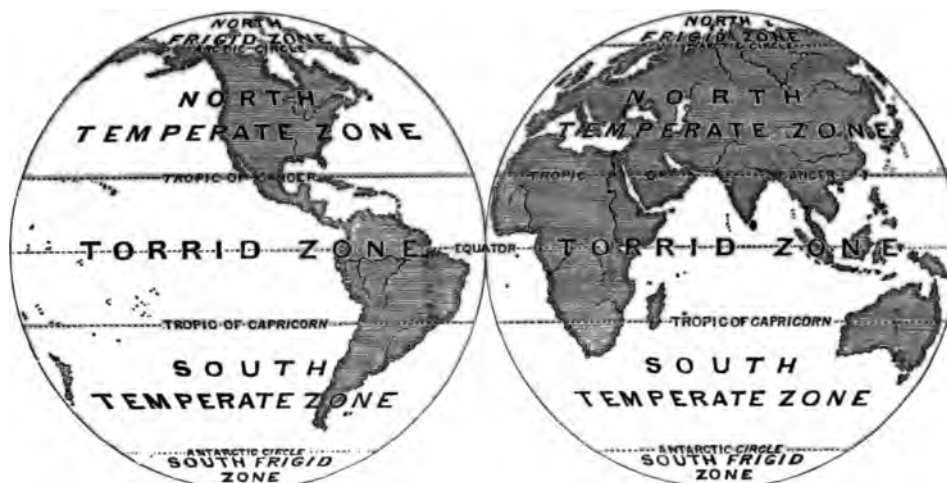


MERCATOR'S MAP.

Mercator's map, named after its inventor, Mercator, is designed for the use of mariners. Its value is in showing all parts of the earth at one view, and in their true *bearings*; but it distorts the form of the continents and oceans by their expansion toward the poles.

TOPICAL SYNOPSIS FOR REVIEW.

Subject Defined	{	I. Geography and	{	Mathematical.
		II. Its Subdivisions		Physical. Political.
Geometrical Terms	{	I. Sphere.	{	IX. Circle { Geometrical.
		II. Circumference of Sphere.		X. Circumference of Circle. { Geographical.
	{	III. Diameter of Sphere.	{	XI. Great Circle.
		IV. Axis.		XII. Small Circle.
	{	V. Rotation.	{	XIII. Degree { Minute.
		VI. Revolution.		{ 'Second.
	{	VII. Poles.	{	
		VIII. Plane.		
Shape, Size, and Motions of the Earth	{	I. Shape of the Earth	{	Approximate Form.
				Exact Form.
	{	II. Size of the Earth	{	Circumference.
				Diameter { Longest. Shortest.
	{		{	Greatest Circumference.
		III. Motions of the Earth		Rotation { On what. In what time. Effect.
	{		{	Revolution { Around what. In what time. Effect.
		IV. Poles		North. South.
	{	V. Points of Direction	{	Cardinal.
				Semi-cardinal.
Geographical Circles	{	I. Definition.	{	Equator { Northern Hemisphere.
				Southern "
	{	II. Great Circles	{	Meridian Circles . . . { Eastern "
				Meridian { Western "
	{		{	Tropics { Of Cancer.
		III. Small Circles		Of Capricorn.
	{		{	Polar Circles { Arctic Circle.
				Antarctic "
	{		{	Parallels of Latitude.
Latitude, Longitude, and Zones.	{	I. Geographical Position.	{	Definition.
		II. Latitude		How reckoned. Length of Degree.
	{	III. Longitude	{	Definition.
				How reckoned. Length of Degree . . { At Equator.
	{		{	How varying.
		IV. Zones		Torrid { Extent. Characteristics.
	{		{	Temperate { North. South. Characteristics.
				Frigid { North. South. Characteristics.
Geographical Appliances.	{	Terrestrial Globe.	{	Hemisphere.
		World-Map		Mercator's.



THE ZONES.

The Torrid Zone is marked by great and uniform heat, with two seasons,—the rainy and the dry season. The days and nights vary little in length.

44. The **Temperate Zones** lie between the tropics and the polar circles,—the North Temperate Zone, between the Tropic of Cancer and the Arctic Circle; and the South Temperate Zone, between the Tropic of Capricorn and the Antarctic Circle. Each is 43° (= nearly 3,000 miles) wide.

The Temperate Zones are marked by the four seasons, with hot summers and cold winters. The days and nights vary in length more than in the Torrid Zone.

45. The **Frigid Zones** are distinguished as the North Frigid Zone, between the Arctic Circle and the North Pole; and the South Frigid Zone, between the Antarctic Circle and the South Pole. Each extends $23\frac{1}{2}^\circ$ from the pole as its center.

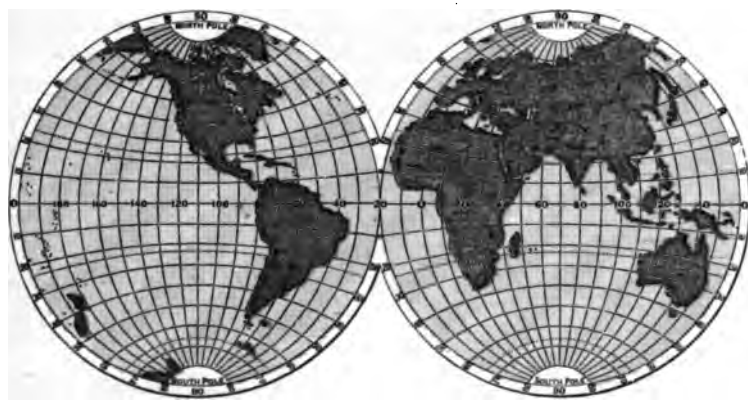
The Frigid Zones are marked by a long and intensely cold winter, and a short, though comparatively warm, summer. The days lengthen towards the poles, where day and night are each six months in length.

IV.

MEANS OF GEOGRAPHICAL STUDY.

I. GLOBES AND MAPS.

46. A **terrestrial globe** is a sphere representing the form of the earth, the geographical circles, and the outlines of the earth's surface.



HEMISPHERE MAP.

47. A **map** is a representation of the whole or part of the earth's surface on a plane (Def. 12).

II. MAP OF THE WORLD.

48. A representation of the entire surface of the earth on a plane is generally made in one of two ways:—

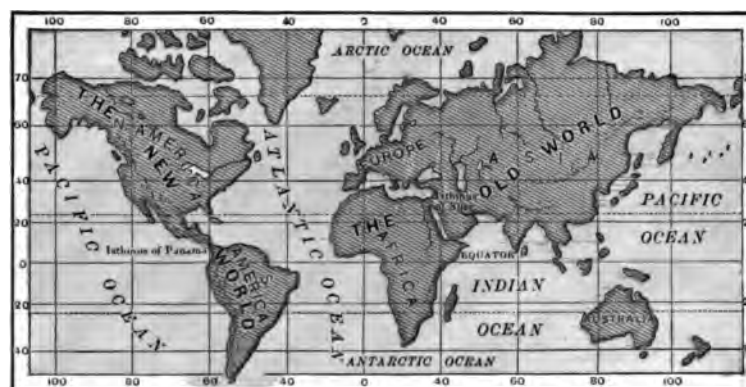
49. **First Method.**—By the **hemisphere map**, in which the sphere of the earth is assumed to be divided into an Eastern and a Western Hemisphere. Each of these is represented by a circle, within which the geographical lines and the surface-outlines are drawn.

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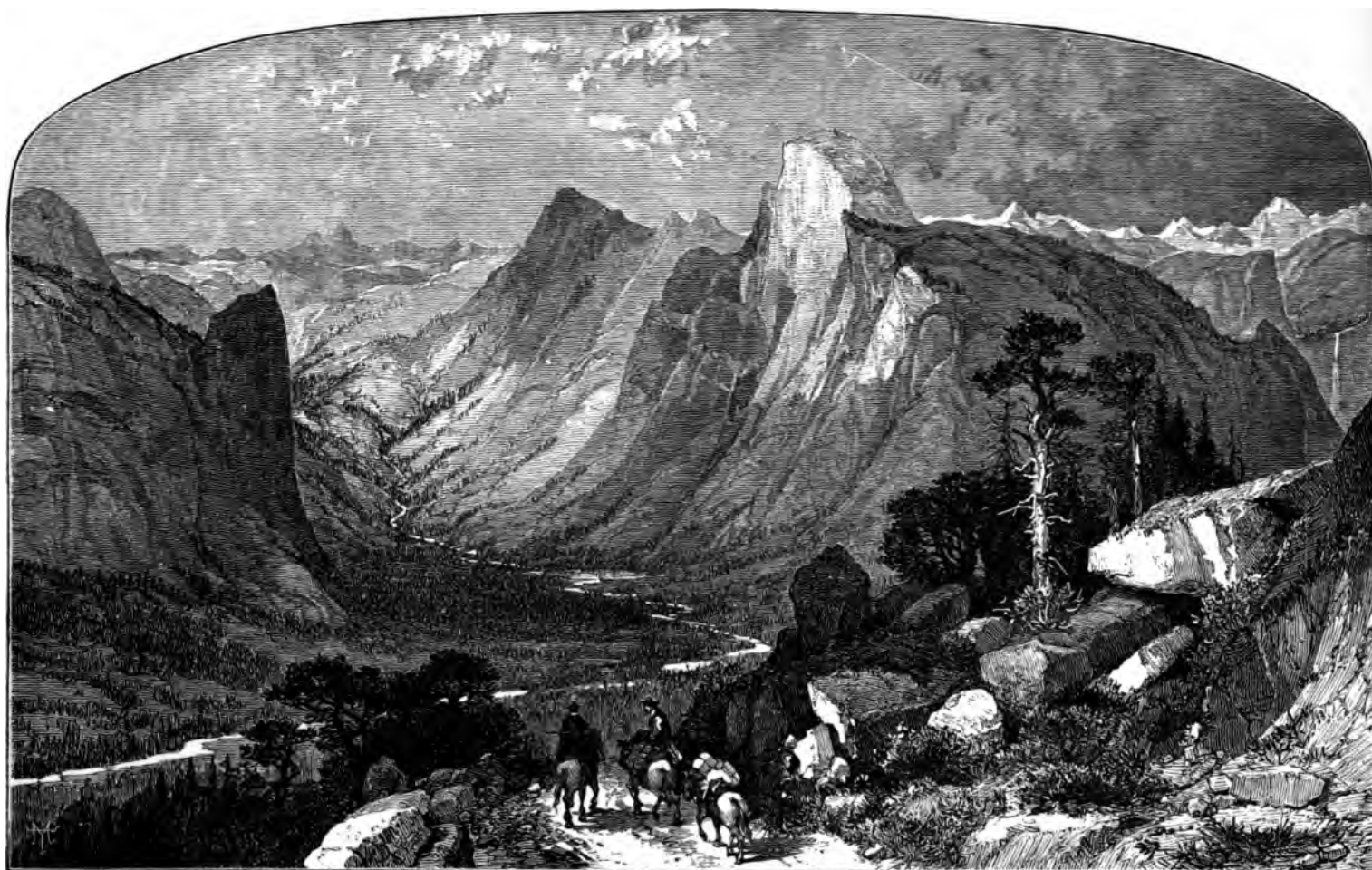
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DEFINITIONS IN PHYSICAL GEOGRAPHY.



YOSEMITE VALLEY, CALIFORNIA.

I.

DIVISIONS OF THE LAND.

I. LAND-FORMS.

51. The **surface** of the earth consists of land and water, about one-fourth being land, and three-fourths water.

52. The **land-surface** is divided into two continental masses, called the Eastern Continent and the Western Continent; and numerous smaller bodies, called islands.

53. The **Eastern Continent**, or Old World, is in the Eastern Hemisphere, and comprises the three grand divisions of Europe, Asia, and Africa. In the Eastern Hemisphere, also, is the continental island of Australia.

54. The **Western Continent**, or New World, is in the Western Hemisphere, and comprises the grand divisions of North and South America.

Some geographers apply the term "continent" to each of the *grand divisions* of land, and, including Australia, make six continents, — Europe, Asia, Africa, Australia, North America, and South America.

55. An **island** is a portion of land smaller than a continent, and surrounded by water.

I. Islands are classed as, —

1. **Continental** islands, which are situated near one of the continents, of which they appear to be detached parts.
2. **Oceanic** islands, which are situated in mid-ocean.

II. An **archipelago** is a group or cluster of islands.

III. The chief difference between a continent and an island is one of **size**: accordingly Australia may be regarded either as the smallest continent or the largest island.

56. The **coast** is that part of the land which borders the water; the **coast-line**, the irregular line formed by the meeting of the land and the water.

57. **Classification.** — The natural divisions of land are classified by *shape* as coast-lands, and by *height* as surface-lands.

I. Contour, or shape, is the form of a body of land as determined by its coast-line.

Relief, or height, is the elevation of a body of land above the level of the sea.

II. These terms give rise to the following classification: —

Contour-forms.	{	<i>Peninsula.</i> <i>Cape.</i> <i>Isthmus.</i>	Relief-forms.	{	<i>Lowlands.</i> <i>Highlands.</i>	{	Plain. Valley. Plateau. Mountain.

II. CONTOUR-FORMS.

58. The divisions of land by shape, or contour, are *peninsulas*, *capcs*, and *isthmuses*.

59. A **peninsula** is a part of the land nearly surrounded by water.

60. A **cape** is a point of land extending into the water.

A **promontory** is a mountainous cape.



BALBOA DISCOVERING THE PACIFIC OCEAN.

61. An isthmus is a narrow portion of land connecting two larger bodies of land.

III. RELIEF-FORMS.

62. The divisions of land by height, or relief, are *lowlands*, or plains and valleys; and *highlands*, or plateaus and mountains.

63. A **plain** is a great tract of low, and generally level, land.

64. A **valley** is the low land between hills or mountains, or a marked depression below the general level of a plain.

65. A **plateau** (high plain), or table-land, is a great tract of lofty, and generally level, land.

66. A **mountain** is a great mass of land rising above the surrounding country.

I. A *hill* is an elevation lower than a mountain. The name is generally applied to elevations less than 2,000 feet.

II. The *summit* of a mountain or hill is its highest point; the *base* is its foot.

67. A **mountain range**, or chain, is a connected series of mountains extending in the same general direction.

68. A **mountain system** consists of several ranges near together, and extending in the same general direction.

II.

DIVISIONS OF THE WATER.

I. CLASSIFICATION.

69. The waters on the surface of the earth are divided into the oceans, inland waters, and coast waters.

II. THE OCEANS.

70. The Ocean, or Great Sea, is the vast expanse of water surrounding the continents, and covering nearly three-fourths of the earth's surface.

71. An ocean is one of the grand divisions into which the Ocean is divided by the position and relations of the continents.

72. **Great Oceans.**—The Ocean forms three great basins, called the Atlantic Ocean, the Pacific Ocean, and the Indian Ocean.

To these, for convenience of geographical description, are added the names Arctic Ocean, which is around the North Pole, and Antarctic Ocean, which is around the South Pole.

The Arctic Ocean is the polar region of the Atlantic and Pacific oceans, rather than a separate ocean; the Antarctic Ocean is those parts of the Atlantic, Pacific, and Indian oceans, that are within the Antarctic Circle.

III. INLAND WATERS.

73. Those waters which form lakes and streams, and all waters which flow toward the sea, are called inland waters.

Most inland waters may be said to *drain* the region of land through which they flow: hence they are sometimes called *drainage* waters.

74. A **lake** is an inland sheet of water.

Some salt lakes are called seas.

75. A **river** is a large inland stream of water.

A *tributary* is a river flowing into another river.

The *confluence* of two rivers is their point of meeting.

An *estuary* is a broad mouth of a river.

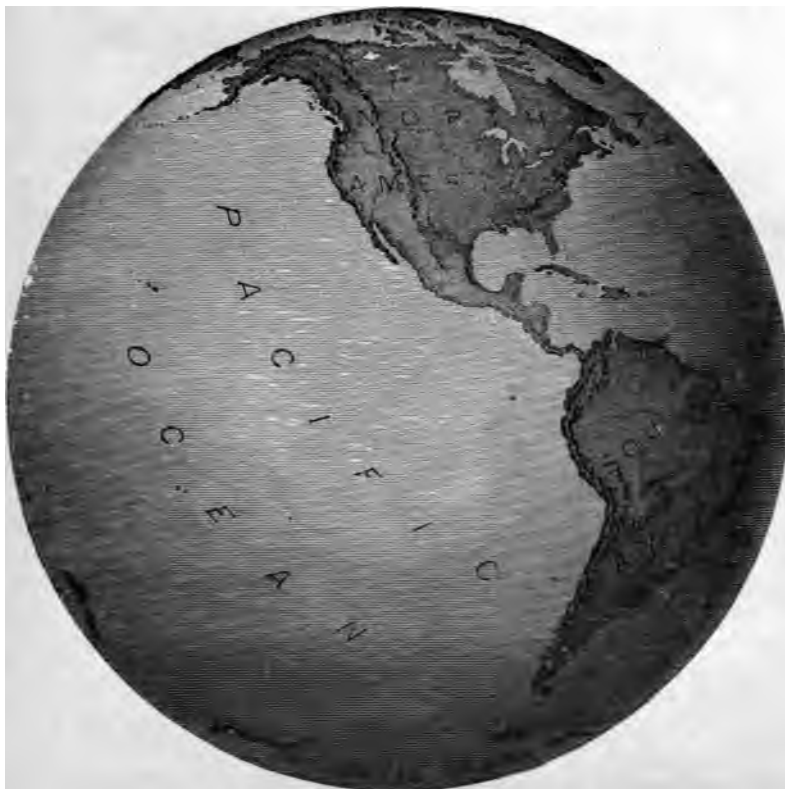
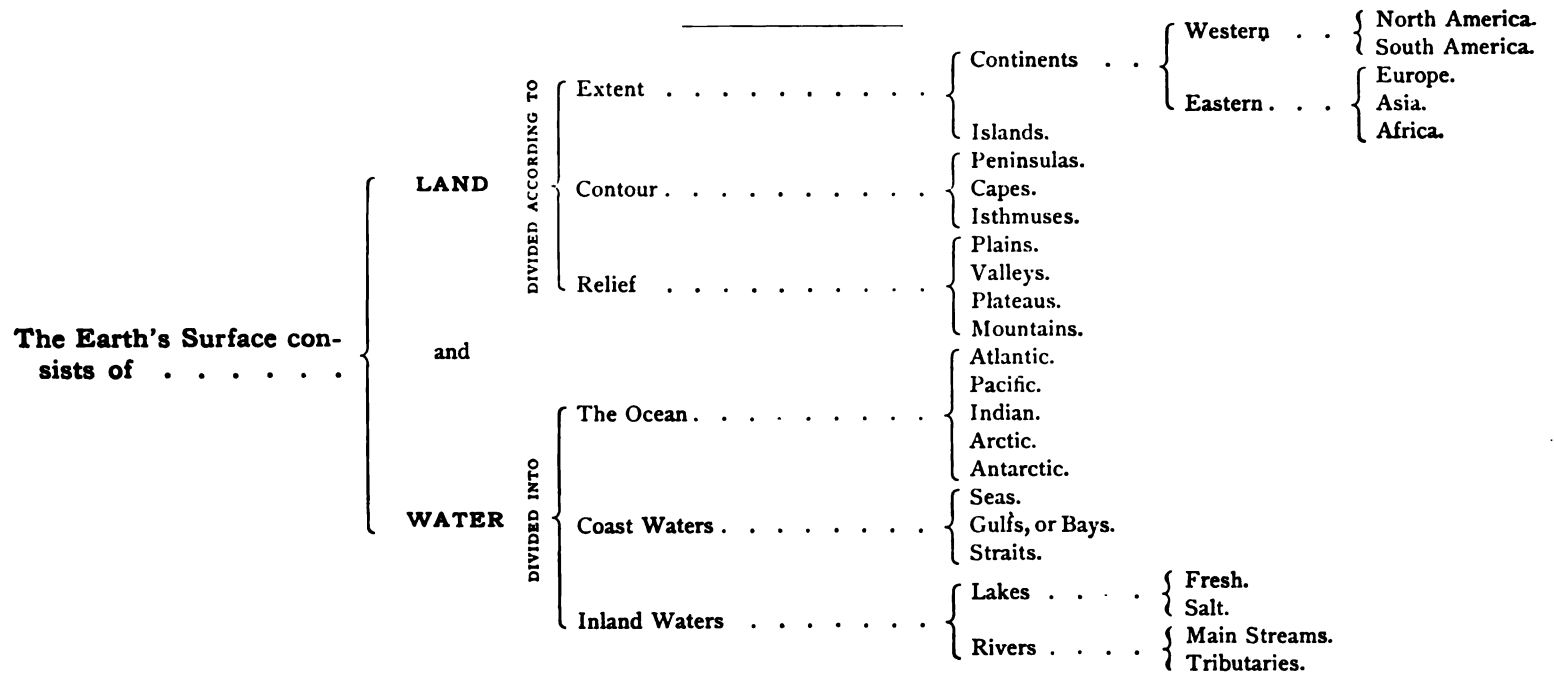
76. A **river system** is a river with its tributaries.
 77. A **river basin**, or valley, is the entire region drained by a river system.
 78. A **watershed** (literally *water-parting*) is the height of land that separates two river basins.
 This term is also applied to the slope down which a river or river system flows.

IV. COAST WATERS.

79. The coast waters are seas, gulfs or bays, and straits.

80. A **sea** is a large division of the Ocean nearly inclosed by land.
 81. A **gulf** or **bay** is a body of water extending into the land.
 A *harbor* is a small bay, in which ships may ride at anchor.
 82. A **strait** is a narrow passage of water connecting two larger bodies of water.
 A *channel* is a wide strait. A *sound* is a shallow strait, or channel.
 83. An **ocean-current** is a broad stream of water flowing through the Ocean.

TOPICAL SYNOPSIS FOR REVIEW.



WESTERN HEMISPHERE.



EASTERN HEMISPHERE.

III.

CLIMATE.

84. **Climate** is the condition of the atmosphere in regard to heat and moisture in the different seasons.

85. **General Law.**—The heat is greatest near the Equator and diminishes gradually toward the Poles; in other words, the climate of a place depends in general on its latitude. But this general law is greatly modified by other conditions.

86. **First Modification.**—The altitude of a place affects its temperature. High mountains and plateaus, even in the Torrid Zone, have a cool or cold climate.

The lower and denser strata of the atmosphere absorb the greatest amount of the sun's heat, and are therefore the warmest. For every one hundred yards of perpendicular ascent there is a decrease of one degree in the temperature: hence, even at the Equator, by ascending to the height of about 16,000 feet above the level of the sea, we reach the snow-line, where winter is perpetual.

87. **Second Modification.**—The prevailing winds at a given place modify the climate of the place. Currents of air flowing from the equatorial region are hot; currents of air flowing from the polar regions are cold. Hence, if we suppose that, of two places in the Northern Hemisphere and in the same latitude, the one is exposed to northerly winds and the other to southerly winds, the former will be cooler than the latter. In like manner, ocean-currents modify the climate (heat and moisture) of places.

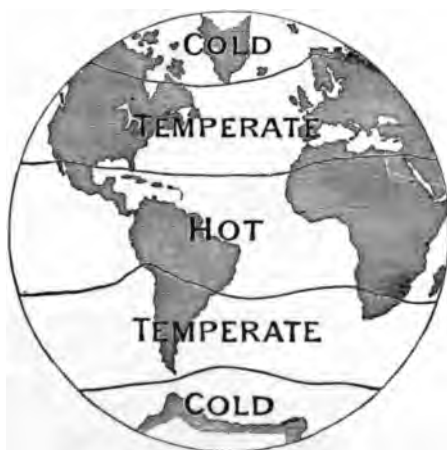
The British Isles, which have a mild, humid climate, are in nearly the same latitude as Labrador. The cause of the mild weather of the British Isles is a warm wind borne there from an ocean-current called the Gulf Stream.

88. **Third Modification.**—The climate of a place is greatly modified by its nearness to or remoteness from the ocean.

The heat absorbed into the land is not taken in to a great depth, and it is given off readily. The heat absorbed into the water is taken in to a great depth, and it is given off slowly. The ocean is thus a great storehouse of heat. In summer the air over the ocean is cooler than that over the land, because the ocean radiates its heat more slowly than the land. In winter the air above the ocean is warmer than that over the land, because the land has then lost its heat by rapid radiation, while the ocean has preserved its heat.

89. **Fourth Modification.**—The climate of a place is modified by the length of the day.

More heat is communicated in a long day than is carried off in the succeeding short night; so that heat continues to accumulate during the summer season. In the polar regions, notwithstanding the obliquity of the sun's rays, the heat during the short summer is very considerable, for the reason that the *day* being continuous for weeks or months, the heat accumulates. This accumulation accounts for the fact that the summer heat in New York, Chicago, and St. Louis is often more intense than in New Orleans or Havana, — places near the Equator, but with shorter days.



CLIMATE BELTS.

NOTE.—The zones on maps and globes indicate the climate of places only in a very general way. The actual belts of climate are more correctly shown in the preceding diagram. The lines crossing the map indicate that the places crossed by each line have the same average amount of heat in the course of a year. They are called *isothermal lines*, or *isotherms* (from two Greek words signifying *equal heat*). If the degree of heat at any given place depended simply on the latitude of the place, the Tropics and Polar Circles would correctly mark the boundaries of climate; but, since it depends on other conditions as well, the lines marking the actual belts of climate vary in direction.

IV.

PLANTS AND ANIMALS.

90. **Vegetation** signifies plant-life in its manifold forms.

The term *flora* is often employed to designate the plant-life of a region; thus we speak of the *flora* of the United States, of Australia, &c., meaning all the species of plants in these regions.

91. **Conditions of Plant-Life.**—Plants depend for their continuance on certain physical conditions. The conditions that regulate plant-life are heat (with light) and moisture. A little more heat or a little more cold, and a little more moisture or a little more drought, and the plant flourishes or decays.

92. **Distribution.**—The yearly supply of heat and moisture is greatest in the equatorial region: hence, vegetation is most luxuriant within the Tropics, and diminishes as we proceed toward either Pole.

93. **Belts.**—Different regions of the earth present different conditions of climate; climate controls plants: hence, different regions have each their own distinct vegetation. There are four well-marked belts of plant-life, — the Tropical, Warm-Temperate, Cold-Temperate, and Polar belts.

94. **The Tropical Belt** corresponds nearly with the Torrid Zone as marked on maps and globes. It includes all countries where frost is never in the ground.

Characteristic plants of this belt are palms, bananas, bread-fruit, pine-apples, rice, coffee, the sugar-cane, spices, opium (from the poppy), indigo, and caoutchouc. The equatorial parts of this belt are further marked by canes, bamboos, large and showy flowers, and gigantic parasitic plants.

95. **The Polar Belt** includes all countries where frost is never out of the ground. Geographically it comprises the Frigid zones and parts of the North Temperate Zone.

This belt is marked by the dwarf birch, alder, and willow. Its more temperate parts yield barley, turnips, and Iceland moss; but its higher latitudes produce no food-plants, nor indeed any kind of vegetation except mosses, lichens, &c.

96. **Temperate Belts.**—The region between these two extremes is divided, in both the northern and the southern hemisphere, into two belts, — the Warm-Temperate, which adjoins the Tropical, and the Cold-Temperate, which adjoins the Polar belt.

In a general way, it may be said that the highest latitudes in which Indian corn can be grown mark the dividing-line between these two belts. The warm-temperate belt is the land of the vine and olive, the laurel and myrtle. It has numerous kinds of deciduous forest-trees (those which shed their leaves in autumn), as the oak, chestnut, ash, maple, cottonwood, &c. As products of cultivation, tea, cotton, and tobacco may be noted. The chief food-plants are corn, wheat, rice, and potatoes. The line of the cultivation of wheat includes the warmer parts of the cold-temperate belt; but its characteristic food-plants are barley, rye, oats, buckwheat, and potatoes. Flax and hemp are grown. Among representative forest-trees are the pine, maple, beech, birch, spruce, and larch.



ZONES OF PLANT LIFE.



ZONES OF ANIMAL LIFE.

97. **Effect of Altitude.** — Temperature decreases as we ascend from the level of the sea into the higher regions of the atmosphere: hence at the Equator the traveler who ascends a lofty mountain passes through belts of vegetation similar to those that mark the earth's surface from the Equator to the Poles.

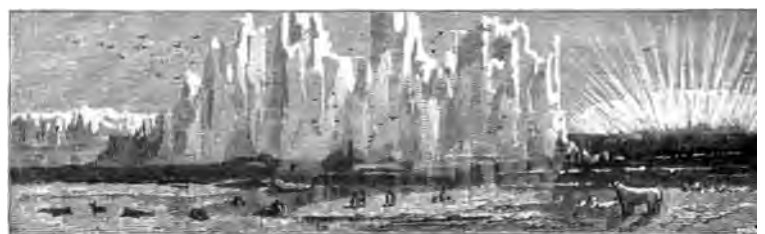
"Nature has permitted the native of the Torrid Zone to behold all the vegetable forms of the earth without quitting his own clime." — *Humboldt*.

98. **Animal Life.** — Animals, like plants, are influenced by physical conditions, and especially by climate and food. The animals of the Torrid Zone excel those of the Temperate Zones in number, size, strength, and beauty; while those of the Temperate Zones surpass the animals of the polar regions. There are three principal belts of animal life.

- I. The **Tropical belt** is the home of such animals as the lion, tiger, and panther; apes, monkeys, and gorillas; the giraffe and zebra; the elephant, rhinoceros, and hippopotamus; the crocodile and boa; the flamingo, peacock, parrot, and bird-of-paradise.
- II. The **Temperate belts** are the home of the following, among other animals: (1) **DOMESTIC ANIMALS**, as the horse, camel, llama, ox, sheep, goat, hog, dog; the hen, turkey, goose, &c.; (2) **WILD ANIMALS**, as the bear, buffalo, deer, kangaroo, wolf, fox, beaver; the eagle, hawk, jay, &c.
- III. The **Polar belt** numbers among its leading animals the white polar-bear, the walrus, seal, reindeer, dog, arctic fox, sable, ermine, marten, auk.



TROPICAL SCENE.



POLAR SCENE.

V.

RACES OF MEN.

99. The population of the globe is about 1,480,000,000.

100. **Races.** — The inhabitants of the earth are divided into five great races, — the Caucasian, or white race; the Mongol, or yellow race; the Ethiopian, or black race; the Malay, or brown race; and the American Indian, or red race.

REFERENCE TABLE OF RACES.

RACE.	PHYSICAL CHARACTERISTICS.	REPRESENTATIVE TYPES.	NUMBERS.
Caucasian . . .	COLOR: white to swarthy. FEATURES: regular. HAIR: waving or curling. BEARD: heavy.	Leading European peoples, descendants of European colonists, Hindoos, Arabs.	600 millions.
Mongol . . .	COLOR: olive-yellow. FEATURES: face broad and flat, with high cheek-bones, and small, black, obliquely set eyes. HAIR: coarse and stiff. BEARD: scanty.	Chinese, Japanese, Tartars, Turks, Esquimaux.	550 millions.
Ethiopian . . .	COLOR: brown to black. FEATURES: flat nose, retreating forehead, prominent jaws. HAIR: short and crisp. BEARD: scanty.	Tribes of Central Africa, their descendants in America.	180 millions.
Malay . . .	COLOR: brown. FEATURES: much like Mongolians, but with horizontally set eyes. BEARD: full.	Inhabitants of Malacca, of East India Islands, and most of the Isles of the Pacific.	60 millions.
Indian . . .	COLOR: red, or copper hue. FEATURES: high cheek-bones, prominent nose, and black eyes. HAIR: straight and black. BEARD: scanty.	Indian tribes in North and South America.	10 millions.

DEFINITIONS IN POLITICAL GEOGRAPHY.

I.

STATES OF SOCIETY.

101. A **state of society** is the condition of a people in respect to civilization. The principal states are the savage, barbarous, semi-civilized, and civilized.

102. The **savage** state is that of people who live in tribes, and subsist on the products of nature.

103. The **barbarous** state is that of a people who possess flocks and herds, and rudely till the soil.

104. The **semi-civilized** state is that of a people who have a settled society, live in towns, possess a written language, and have made considerable progress in the mechanic arts.

105. The **civilized**, or enlightened, state is the condition of the most advanced nations,—of those that have made the greatest progress in the arts, sciences, morals, and culture.

II.

GOVERNMENT.

106. The principal forms of government are the republican and the monarchical.

107. A **republic** is a country governed by men chosen by the people to make and execute the laws.

108. A **monarchy** is a government in which the chief authority is in the hands of a sovereign, called king (queen) or emperor.

A **limited**, or **constitutional**, monarchy is a government in which the power of the sovereign is limited by law, and the laws are made by representatives of the people.

An **absolute** monarchy, autocracy, or despotism is a government in which the sovereign has unlimited power to *make* as well as to *execute* the laws.

A **kingdom** is a monarchy governed by a king or queen.

An **empire** is an extensive monarchy.

109. A **state**, in our country, is an independent member of the Federal Union. The people elect a state government and a legislature, to make state laws.

110. A **territory**, in our country, is a region not organized as a state, yet having a territorial government.

111. A **county** is a subdivision of a state, having its own local officers. The place where the county officers transact business is called the county-seat, or shire-town.

112. The **metropolis** of a state or country is its chief city.

113. The **capital** of a country is the seat of government.

ETYMOLOGY OF TERMS USED IN GEOGRAPHY.

altitude. Lat. *altitudo*, height, from *altus*, high.

annual. Lat. *annalis*, yearly, from *annus*, year.

antarctic. Gr. *anti*, opposite, and *arktos*, bear. See *arctic*.

archipelago. Gr. *archi*, chief, and *pelagos*, sea; originally applied to the Ægean Sea, which is studded with numerous islands.

arctic. Gr. *arktikos*, from *arktos*, bear, and a northern constellation so called.

Atlantic. Lat. *Atlanticus*; from "Atlas," a fabled Titan who was condemned to bear heaven on his head and hands.

axis. Lat. *axis*, an axletree.

barbarous. Gr. *barbaros*, foreign.

bay. Fr. *baie*, from Lat. *baia*, an inlet.

cancer. Lat. *cancer*, a crab (one of the signs of the zodiac).

cape. Fr. *cap*, from Lat. *caput*, head.

capital. Lat. *capitalis*, from *caput*, head.

capricorn. Lat. *caper*, goat, and *cornu*, horn (one of the signs of the zodiac).

cardinal, adj. Lat. *cardinalis*, from *cardo*, *cardinis*, a hinge.

channel. Lat. *canalis*, from *canna*, a reed, or pipe.

circle. Lat. *circus*, from Gr. *kirkos*, a ring.

circumference. Lat. *circum*, around, and *ferre*, to bear.

city. Fr. *cité*, from Lat. *civitas*, a state or community.

civilized. Lat. *civilis*, pertaining to an organized community.

climate. Gr. *klima*, *klimatos*, slope, the supposed slope of the earth from the equator to the poles.

coast. Old Fr. *coste* (New Fr. *côte*), from Lat. *costa*, rib, side.

confluence. Lat. *con*, together, and *fluere*, to flow.

continent. Lat. *con*, together, and *tenere*, to hold.

contour. Lat. *con*, together, and *tornus*, a lathe.

county. Fr. *comté*, from Lat. *comitatus*, governed by a count.

degree. Lat. *de*, and *gradus*, a step.

diameter. Gr. *dia*, through, and *metron*, measure.

diurnal. Lat. *diurnalis*, daily, from *dies*, day.

equator. Lat. *aquus*, equal.

estuary. Lat. *astuare*, to boil up, or be furious; the reference being to the commotion made by the meeting of a river-current and the tide.

frigid. Lat. *frigidus*, from *frigere*, to be cold.

geography. Gr. *ge*, the earth, and *graphé*, a description.

globe. Lat. *globus*, a round body.

gulf. Fr. *golfe*, from Gr. *kolpos*, bosom, bay.

harbor. Anglo-Saxon, *hereberga*, from *beorgan*, to shelter.

hemisphere. Gr. *hemi*, half, and *sphaira*, sphere.

horizon. Gr. *horizein*, to bound.

Indian (ocean). India.

isthmus. Gr. *isthmos*, a neck.

lake. Lat. *lacus*, a lake.

latitude. Lat. *latitudo*, from *latus*, broad.

longitude. Lat. *longitudo*, from *longus*, long.

meridian. Lat. *meridies*, noon, from *medius*, middle, and *dies*, day.

metropolis. Gr. *meter*, mother, and *polis*, city.

monarchy. Gr. *monarchés*, from *monos*, alone, and *archein*, to rule.

mountain. Fr. *montagne*, from Lat. *mons*, *montis*, a mountain.

oblate. Lat. *oblatus* (*ob* and past part. of *ferre*, to bring), brought forward.

ocean. Gr. *okeanus*, from *okus*, rapid, and *nacín*, to flow.

orbit. Lat. *orbita*, track, from *orbis*, circle.

Pacific. Lat. *pacificus*, from *pax*, *pacis*, peace, and *facere*, to make.

parallel. Gr. *para*, beside, and *allelon*, of one another.

peninsula. Lat. *pene*, almost, and *insula*, island.

physical. Gr. *physis* (*phusis*), nature.

plain. Lat. *planus*, flat.

plateau. Fr. *plateau*, table-land, from *plat*, flat.

plane. Lat. *planus*, flat.

pole. Gr. *polos*, a pivot.

political. Gr. *polis*, a city or state.

promontory. Lat. *pro*, before, and *mons*, *montis*, a mountain.

radius. Lat. *radius*, a spoke.

relief. Fr. *relevé*, from Lat. *relevare*, to raise.

republic. Lat. *res*, an affair, and *publica*, public; that is, a *commonwealth*.

river. Fr. *rivière*, from Lat. *ripa*, a shore or bank.

savage. Fr. *sauvage*, from Lat. *silva*, a wood.

sea. Anglo-Saxon, *se*, the sea.

society. Lat. *societas*, from *socius*, a companion.

strait. Old Fr. *stroit*, narrow.

temperate. Lat. *temperatus*, moderate, from *temperare*, to moderate.

torrid. Lat. *torridus*, parched, from *torrere*, to parch.

tributary. Lat. *tributarius*, contributing.

tropic. Gr. *tropikos*, turning, from *trepein*, to turn.

zone. Gr. *zone*, a belt, a girdle.



STUDIES ON THE HEMISPHERE MAP.

I. GRAND DIVISIONS.

What two grand divisions are in the Western Hemisphere? What three in the Eastern? Which division of America is crossed by the Equator? By the Tropic of Capricorn? In what zone is most of North America? Most of South America? What isthmus joins North and South America? By what oceans are the two Americas surrounded? What is the direction of Europe from Asia? Of Africa from Asia? What grand divisions are wholly in the Northern Hemisphere? In what three zones is Asia? In which zone is most of Europe? What oceans surround the Eastern Continent?

II. ISLANDS.

What island off the east coast of North America? What group south? What large island in Oceania is crossed by the 40th parallel? What islands south of Bering Sea? Off the

west coast of Europe? Off the east coast of Asia? Locate Newfoundland, Iceland, Madagascar, Dorneo.

III. CAPES.

What cape at the southern extremity of Greenland? At the eastern point of South America? At the southern point of Africa? Locate the following capes, — Hatteras, Frio, San Lucas, North Cape, Verde.

IV. COAST WATERS.

What great inbreaking of the Atlantic Ocean in the northern part of North America? In the southern part of the United States? Locate the following, — Hudson Bay, Caribbean Sea, Bering Sea. Where is the North Sea? Where is the Mediterranean Sea? What large gulf west of Africa? What sea between Arabia and Hindostan? Where is the Bay of Bengal? Locate the Red Sea, China Sea, Japan Sea.

V. MOUNTAINS.

What great mountain system in North America? In South America? In which grand division are the Altai Mts.? What mountains in Africa? Where are the Himalaya Mountains?

VI. RIVERS AND LAKES.

What river flows into the Gulf of Mexico? Where is Lake Superior? What South American river has its mouth near the Equator? Where is the Orinoco? Name two great European rivers. Four African. Where is Lake Albert? Victoria? What great rivers of Asia flow northward? Southward?

VII. LATITUDE AND LONGITUDE.

Vessels were spoken in the following latitudes and longitudes: in what waters were they? Lat. 40° N., long. 60° W. Lat. 20° N., long. 120° W. Lat. 40° S., long. 140° E. Lat. 60° S., long. 80° W. Lat. 40° S., long. 180° W.

COMPARATIVE GEOGRAPHY OF THE WORLD.



PHYSICAL VIEW OF LAND AND WATER.

I. THE HEMISPHERES.

1. What is the comparative area of the land and water surfaces of the earth?

About one-fourth of the earth's surface is land, the remaining three-fourths are water.

2. What are the proportions of land and water in the hemispheres into which the earth may be divided?

The Eastern Hemisphere contains about two and a half times as much land as the Western; and the Northern Hemisphere, about three times as much as the Southern.

II. THE CONTINENTS.

3. How many continents are there?

There are two continents, — the Eastern Continent in the Eastern Hemisphere, and the Western Continent in the Western Hemisphere.

4. What similarity is there between South America and Africa with respect to their relation to the main body of the continent?

South America is nearly detached from North America, and is connected with it by the Isthmus of Panama; Africa is nearly detached from the continental mass, and is connected with it by the Isthmus of Suez.

5. What difference is there between the Eastern and the Western Continent with respect to their greatest length?

The greatest length of the Eastern Continent is from east to west, or in the direction of the parallels; the greatest length of the Western Continent is from north to south, or in the direction of the meridians.

6. What difference is there between the Eastern and the Western Continent with respect to physical features?

The Eastern Continent is remarkable for mountains and plateaus; the Western Continent, for rivers and plains.

III. GRAND DIVISIONS OF LAND.

7. Name the five grand divisions of land.

The five grand divisions of land are North and South America, in the Western Continent; and Europe, Asia, and Africa, in the Eastern Continent.

8. Name the grand divisions in the order of size.

The grand divisions in the order of size are Asia, Africa, North America, South America, and Europe.

9. What are the comparative sizes of the grand divisions?

South America would make two divisions as large as Europe; North America, two and a half divisions; Africa, a little more than three; and Asia, four and a half.

10. Which grand divisions of land are wholly in the Northern Hemisphere?

North America, Europe, and Asia are wholly in the Northern Hemisphere.

11. Which grand divisions are partly in the Southern Hemisphere?

South America and Africa are partly in the Southern Hemisphere.

12. What contrast do the northern and southern grand divisions present with respect to their coast-lines?

The coast-lines of the three northern grand divisions are broken by many seas, gulfs, and bays; but the two southern grand divisions have few great inlets of the ocean.

IV. GRAND DIVISIONS OF WATER.

13. How many oceans are there, and how are they classed?

There are five oceans, classed as three primary oceans, — the Pacific, Atlantic, and Indian oceans; and two secondary oceans, — the Arctic and Antarctic oceans.

14. How is the Pacific Ocean bounded?

The Pacific Ocean is bounded by America on the east, Asia and Australia on the west, and the Polar circles on the north and south.

15. How is the Atlantic Ocean bounded?

The Atlantic Ocean is bounded by Europe and Africa on the east, America on the west, and the Polar circles on the north and south.

16. How is the Indian Ocean bounded?

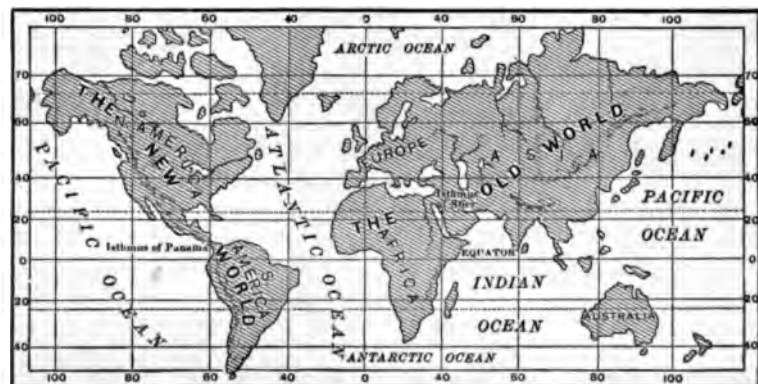
The Indian Ocean is bounded by Southern Asia on the north, Australia on the east, the Antarctic circle on the south, and Africa on the west.

17. Where is the Arctic Ocean?

The Arctic Ocean extends around the North Pole, and is bounded by the northern shores of the Eastern and Western continents, and by the Arctic circle.

18. Where is the Antarctic Ocean?

The Antarctic Ocean extends around the South Pole, and is bounded by the Antarctic circle.



MERCATOR'S MAP.



PHYSICAL NORTH AMERICA.



PHYSICAL VIEW OF NORTH AMERICA.

QUESTIONS ON THE PHYSICAL MAP.

- I. What geographical circles cross North America? In which zone is the greater part of this grand division? In which zone is the northern part? The southern part? What isthmus connects North America with South America? Through how many degrees of latitude (approximate estimate) does North America extend? Through how many degrees of longitude? What is the time at Cape Cod when it is noon at Washington? What is the time at San Francisco when it is noon at Washington? What is the length of the longest day on the latitude of Newfoundland and Vancouver Island? On the Arctic Circle? Where is the day six months long? *Ans.* At the North Pole. By what oceans is North America surrounded? What is the general direction of the Atlantic coast? Of the Pacific coast?
- II. Name the two seas near the coast. Name all the gulfs on the coast. The bays. The straits. Name all the bodies of water in their order from Baffin Bay to the Isthmus of Panama. From the Isthmus of Panama to Bering Strait. From Bering Strait to Baffin Bay. Name all the peninsulas from Labrador to Yucatan. From Yucatan to Alaska. Name all the capes from Cape Farewell to Point Mariato. From Point Mariato to Cape Prince of Wales. Name all the islands and groups of islands near the coast of North America.

- III. What two great highlands in North America? Which is the more extensive? What is its general direction? What mountain-ranges are near the Pacific coast? What mountain-system occupies the central part of the Pacific Highland? What region east of the Rocky Mountains? What two plateaus and what basin in the Pacific Highland? What is the eastern highland called? What mountain-system does it contain? In what direction does it extend? What highland region in the extreme northern part of North America?
- IV. What plain between the great highlands? What gulf south of it? What ocean north? What is the northern part of the Central Plain called? The southern part? What plain is east of the Appalachian Mountains? Name the principal rivers which drain the Arctic Plain. What lakes discharge their waters through these rivers? Name the principal rivers which drain the Pacific Highland. What great river drains the southern part of the Central Plain? Name its four principal tributaries. Name the "Great Lakes." What river drains them?
- V. What parallel and what circle are crossed by the line showing the northern limit of the growth of trees? On which coast does it extend the farther north? Where is the line marking the northern limit of the growth of wheat? Point out two extensive forest regions. In what parts of North America is gold found? Silver? Copper? Lead? Iron? Coal?
- VI. What ocean-currents flow along the western coast of North America? What is the principal current of the Atlantic Ocean named? What current off the north-eastern coast?

DESCRIPTION.

[Area, 9,350,000 square miles. Population, 88,000,000.]

I. SITUATION EXTENT, AND OUTLINE.

1. **Situation and Extent.**—North America is the northern grand division of the Western Continent. It extends from the Arctic Ocean almost to the Equator (nearly 5,000 miles), and from the Atlantic to the Pacific Ocean. It is more than twice as large as Europe, but less than half as large as Asia.

2. **Outline.**—This grand division is broadest in the northern part; but it becomes narrower toward the south, and terminates in the Isthmus of Panama. Its outline is irregular, the coast being indented by numerous seas, gulfs, and bays.

II. SURFACE.

3. **Natural Divisions.**—The surface of North America is naturally divided into four parts: the Pacific Highland, the Atlantic Highland, the Atlantic Plain, and the Central Plain.

4. **The Pacific Highland** occupies almost all the western half of North America, and extends from the Arctic Ocean to the Isthmus of Panama. It is divided by the Rocky Mountains into two nearly equal parts.

1. The Rocky Mountains form the backbone of North America. The massive chains of this system rise from a plateau which gradually ascends from the Arctic Ocean, where it is quite low, to about 8,000 feet in Mexico.

11. The Sierra Nevada, Cascade, and Coast Mountains form the western border of the Pacific Highland. The loftiest peak in North America (19,500 ft. ?) is near Mt. St. Elias, in the northern Coast Mountains.

5. The Atlantic Highland extends from the northern coast of Labrador nearly to the Gulf of Mexico. Its mountains are the ranges of the Appalachian system.

The Atlantic Highland consists of the plateau of Labrador with the Laurentide Mountains, on the north of the St. Lawrence, and the Appalachian mountain-system, on the south. The Appalachian Mountains, consisting of low parallel ranges, are only about one-fourth the length of the Rocky Mountains, and in structure are far less massive than that system. The highest peaks reach an elevation of less than 8,000 feet.

6. The Atlantic Plain is the slope and tide-water region between the Appalachian Mountains and the Atlantic Ocean.

7. The Central Plain is between the two highland regions, and extends from the Arctic Ocean to the Gulf of Mexico.

1. The Central Plain is formed by the long gentle slope descending eastward from the Rocky Mountains, and the western slope of the Atlantic Highland.

11. The Central Plain consists of two opposite slopes divided from each other by a slight elevation near the center, called the Height of Land. The northern slope is called the Arctic Plain; the southern slope is the Mississippi Valley.

III. CLIMATE.

8. Cold Zone. — The northern third of North America has a very cold climate; and even that part of the Arctic Plain which lies in the North Temperate Zone has a semi-arctic climate.

The Central Plain is exposed to the cold winds from the Arctic Ocean, while most of it is cut off by the coast mountain-ranges from the equalizing influences of the Atlantic and Pacific oceans; but the western coast from Alaska to the Columbia River, being open to the effect of the warm ocean-currents and counter trade-winds of the Pacific, has a much milder climate than the rest of North America in the same latitude.

9. Hot Zone. — The West Indies, Central America, and the lowlands of Mexico have a tropical, or constantly warm, climate.

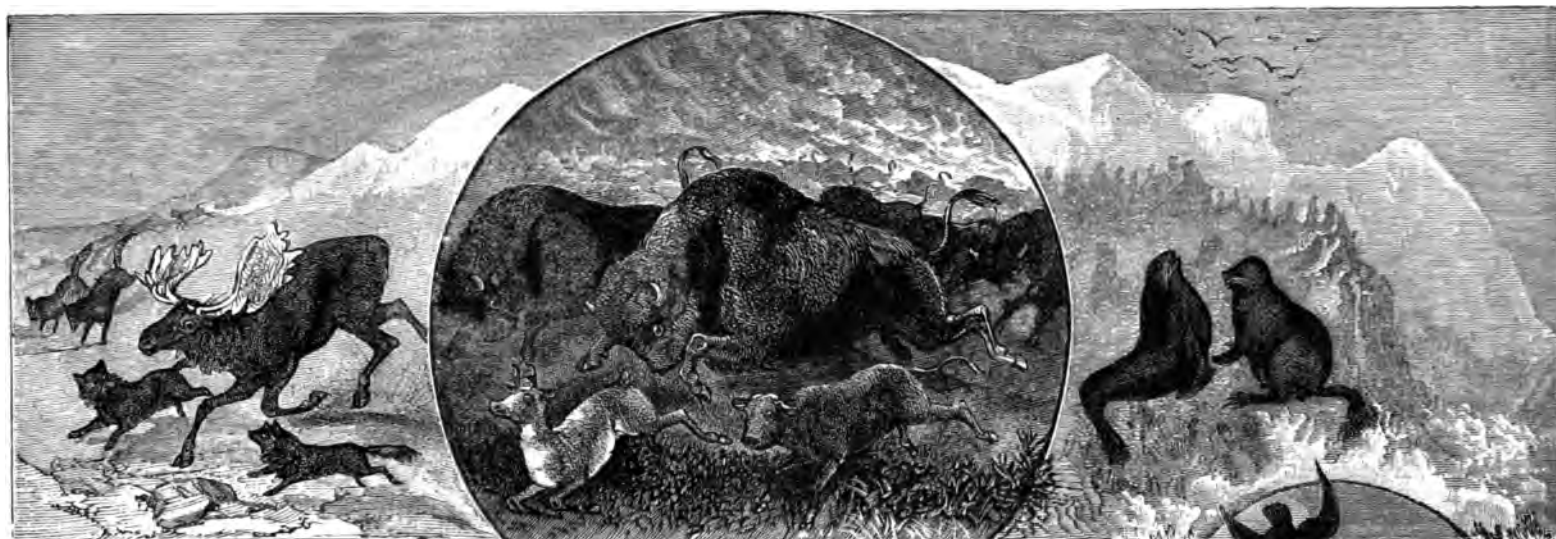
10. The temperate region includes the United States, the basin of the St. Lawrence and Great Lakes, and the plateau of Mexico. Owing to latitude and local causes, there are, however, important differences of climate in this extensive region.



IV. VEGETATION AND ANIMALS.

11. Vegetation. — North America is especially distinguished, in the temperate region, for the great variety of its forest-trees, and in the warm region for the number of its large flowering trees, such as the tulip-tree, the magnolias, the catalpas, and the locusts. The plateaus of the warm region are rich in plants of the cactus family, the yucca, and the agave or American aloe. The low coast plains of Mexico

PLANTS OF NORTH AMERICA.



ANIMALS OF NORTH AMERICA.

and Central America and the West Indies have the luxuriant vegetation of the tropics, — palms, bananas, sugar-cane, etc.

Most of the cereals, as wheat, oats, barley, and rye, are not indigenous to the New World, but were introduced from Europe. The most characteristic native cereal of North America is maize, or Indian corn, which is extensively cultivated from Central America and the West Indies to high latitudes in this grand division.

12. Animals. — The following animals are peculiar to North America: the puma, or panther, the most powerful animal of the cat tribe belonging to this continent, and which replaces the lion and tiger of Asia; the grizzly bear, the largest and most ferocious of its kind, found in the Rocky and Sierra Nevada Mountains; the musk-ox, of the Arctic regions; the bison of "The Great Plains" now nearly extinct; the raccoon, turkey, passage-pigeon, and rattlesnake. Among other wild animals are the polar bear, the wolf, the fox, the otter, the deer, the elk, and the beaver. These North America has in common with the Eastern Continent.

V. MINERALS.

13. North America in the eastern half is exceedingly rich in the useful minerals, coal, iron, copper, and lead.

The coal-fields of North America are more extensive than those of all the countries of Europe taken together.

In the western half the precious metals abound, — gold, especially in the Sierra Nevada Mountains, silver in the plateau region of the United States and Mexico, and both gold and silver in the Rocky Mountains.

VI. INHABITANTS.

14. The number of inhabitants of North America is about 88,000,000, or one-fourth of the population of Europe. Four of the five races of men are represented: the Indians, the aborigines, who formerly occupied the whole of the continent, but who are now confined to the western and northern parts; the Esquimaux, a Mongol race dwelling in the northern parts, together with the Chinese of the Pacific coast and the West Indies; the whites, or Caucasians, descendants of colonists from the various countries of Europe; and the negroes, of the Ethiopian race, the descendants of slaves introduced into Spanish North America and the United States.

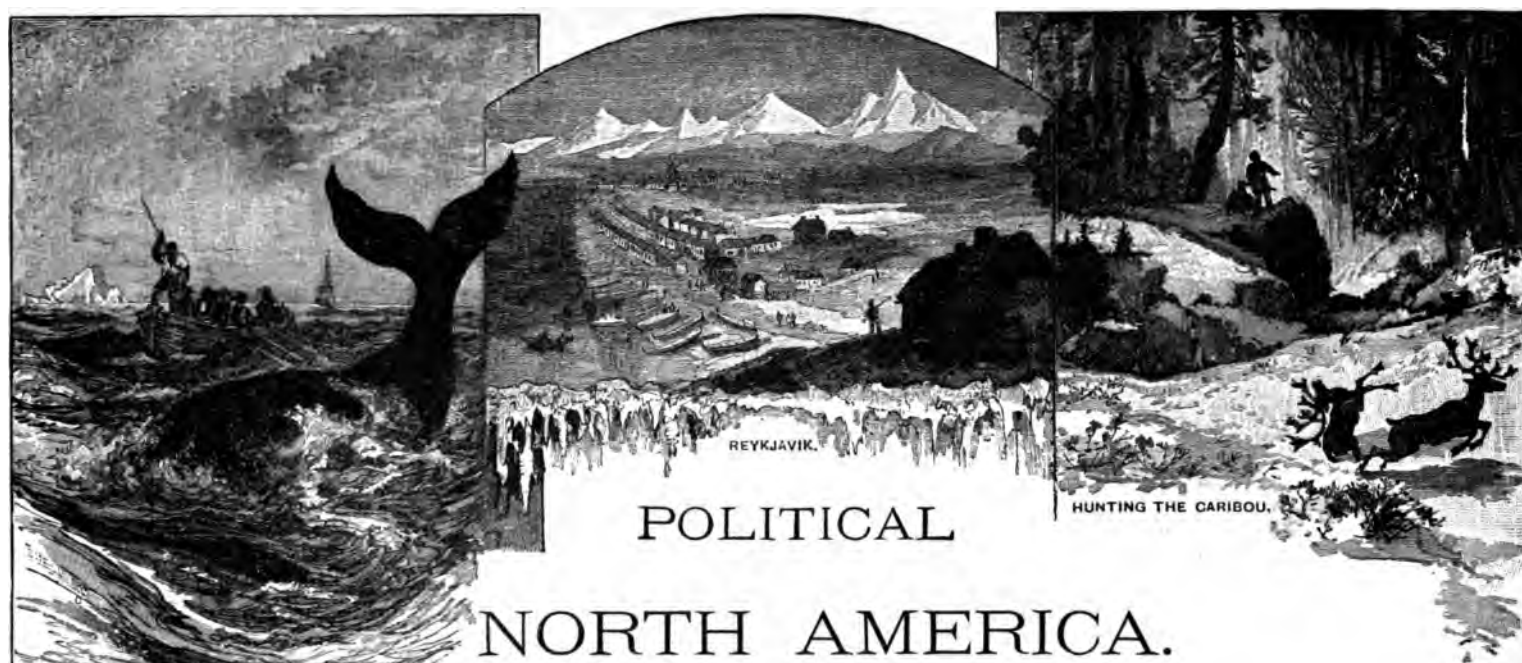
The Caucasians are the most numerous, numbering more than 70,000,000. The negroes number about 10,000,000; the Indians less than 5,000,000.

VII. NATURAL ADVANTAGES.

15. Among the natural advantages of North America are: (1) it lies mainly in the Temperate Zone; (2) it has not, like other grand divisions, impassable mountain barriers or deserts; (3) it possesses a vast area of fertile soil, and is rich in the most valuable metals and minerals; (4) it has numerous navigable rivers and lakes, and fine harbors, which afford excellent facilities for commerce.







WHALING IN BAFFIN BAY.

POLITICAL

NORTH AMERICA.

QUESTIONS ON THE POLITICAL MAP.

I.

General. — What two countries occupy the greater part of North America? What political division is north-east of the Dominion of Canada? North-west? What country is south-west of the United States? South-east of Mexico? What division is south-east of the United States?

Danish America. — What two islands constitute Danish America? What is the capital of Iceland? What is the most northern town in N. A.?

Dominion of Canada. — Bound the Dominion of Canada. What is the capital? Name two cities on the St. Lawrence River. What island east of the Gulf of St. Lawrence? Does it belong to the Dominion of Canada?
Ans. No: it is a separate British colony. What is its capital?

United States. — Bound the United States. What is the capital? Name four Atlantic seaports. What city near the mouth of the Mississippi? On the Pacific coast? On Lake Michigan? Near the mouth of the Missouri?

Mexico. — Bound Mexico. What is its capital? Its chief seaports?

Central America and West Indies. — Bound Central America. What city in the north-west? Name the four largest islands of the West Indies. Name a city in each.

II.

Islands. — In what direction is it from the nearest land? By what waters surrounded?

Greenland? Iceland? Newfoundland? Cape Breton? Bermuda Isles?

West Indies? Cuba? Haiti? Jamaica? Puerto Rico? Bahama Isles? Vancouver? Queen Charlotte? Sitka?

Peninsulas. — From what part of North America does it project? Into what water, or between what waters?

Labrador? Nova Scotia? Florida? Yucatan? Lower California?

Capes. — Where is it? Into what water does it project?

Point Barrow? Cape Farewell? Race? Sable (N.)? Sable (S.)? Hatteras? Cape San Lucas? Mendocino? Flattery? Prince of Wales?

Mountains. — In what part of North America is it? In what direction does it extend?

Rocky? Sierra Nevada? Cascade? Coast? Sierra Madre? Appalachian?

Sea, Gulfs, and Bays. — Where is it? Of what body of water is it an arm? Baffin? Hudson? James? St. Lawrence? Delaware? Chesapeake?

Mexico? Caribbean? California? Bering?

Straits. — Between what lands? What waters does it connect?

Davis? Hudson? Belle Isle? Florida? Bering?

Lakes. — Where is it? What is its outlet?

Great Bear? Great Slave? Athabasca? Winnipeg? Superior? Michigan? Huron? Erie? Ontario? Great Salt? Nicaragua?

Rivers. — Where does it rise? In what direction, and into what, does it flow?

St. Lawrence? Hudson? Mississippi? Missouri? Ohio? Rio Grande? Colorado(1)? Colorado(2)? Columbia? Yukon? Mackenzie? Saskatchewan? Arkansas?

DESCRIPTION.

POLITICAL DIVISIONS.

North America comprises six political divisions: *Danish America*, the *Dominion of Canada* and *Newfoundland*, the *United States*, *Mexico*, *Central America*, and the *West Indies*.

DANISH AMERICA.

1. **Danish America** includes Greenland and Iceland. They belong to the kingdom of Denmark.

2. **Greenland.** — The population (about 10,000) consists of Esquimaux and a few Danes and Norwegians who have small trading and shipping settlements at Godthaab, Uper-

navik, and other points. The chief exports are eider-down, whale and seal oil, and furs.

Greenland is a very large island, or perhaps a cluster of islands, joined by ice. The interior has never been explored. The mountain valleys are filled with glaciers, which, moving slowly to the sea, become undermined on reaching the ocean, and immense fragments are broken off, forming the floating mountains of ice called icebergs.

3. **Iceland.** — The inhabitants of Iceland are mostly of Norwegian descent. The small but intelligent population of the island (69,000) is engaged in farming, fishing, and sheep-raising. Reykjavik is the capital.



QUESTIONS ON THE MAP.

BOUNDARIES AND DIVISIONS.

Bound the Dominion of Canada. What province is largely on the Pacific Ocean? What division is bounded on the west by the United States Territory of Alaska? What between Keewatin and British Columbia? North of Athabasca? North of Mackenzie, Kerwatin, and Ungava? Bound Ontario?

rio, Quebec. New Brunswick. What province is a peninsula? What one north of Nova Scotia is an island? What provinces and other divisions adjoin the United States? Where is Ottawa, the capital of the Dominion of Canada?

BRITISH COLUMBIA.

Describe the boundaries of British Columbia. What large islands belong to this province? What waterway north of islands? Queen Charlotte Islands? What gulf east of Vancouver Island?

What mountains form part of the eastern boundary? What divisions on the north? On the east? What range in the western part? What is the largest river, and into what does it flow? What is the capital?

NORTH-WEST TERRITORIES.

How has this region been divided? Into a number of districts. What is its largest river, and into what does it flow? What lakes are drained by Mackenzie River? Where are the

provisional districts of Yukon, and Mackenzie? Describe their boundaries. What island division on the north? *Ans.* Franklin. What great bay within the North-west Territories? What division occupies the south-eastern part of this great region? *Ans.* Ungava. Name the principal rivers flowing into James Bay. What waters does Hudson Strait connect? Where is Athabasca? Alberta? Saskatchewan? Assiniboia? What is the capital of these divisions? *Ans.* Regina, in Assiniboia.

KEEWATIN.

Describe the boundaries of the district of Keewatin. What large lake partly bounds it on the south-west? What river drains Lake Winnipeg? Into what bay does it flow?

MANITOBA.

Bound Manitoba. What rivers and lakes are partly in this province? What divisions of the United States south? What is the capital? What division is attached to Manitoba? *Ans.* The district of Keewatin.

ONTARIO.

What river between the provinces of Ontario and Quebec? Between Ontario and Keewatin? On which four of the Great Lakes does the former front? What river connects Lakes Erie and Ontario? Locate Toronto, the largest city and capital. Where is Hamilton?

QUEBEC.

How is Quebec bounded on the north? What are its other boundaries? What river and valley in this province? Is the greater part of it north, or south, of the St. Lawrence? What tributaries of the St. Lawrence in this province? Where is Montreal? Quebec? Which city is farthest south,—Montreal, or Quebec? Which is the capital? In what direction is Quebec from Portland? Montreal from New York?

NEW BRUNSWICK.

What gulf and bays form partial boundaries? What British province north? Which of the United States west? What

river forms a partial boundary between New Brunswick and Maine? Where is St. John? Fredericton?

PRINCE EDWARD ISLAND.

Where is the natural and political division of Prince Edward Island situated? Name the capital of this province.

NOVA SCOTIA.

What two natural divisions of land form Nova Scotia? What bay between it and New Brunswick? For what is the Bay of Fundy remarkable? *Ans.* For its tide, which often rises more than seventy feet at the head of the bay. What strait between the mainland and Cape Breton Island? What is the capital?

NEWFOUNDLAND.

What waters surround Newfoundland? What strait separates it from Labrador? What cape in the south-east? What is the capital? What part of British America is under the same government as Newfoundland? *Ans.* East Labrador.

DOMINION OF CANADA, WITH NEWFOUNDLAND.

DOMINION OF CANADA.

1. **The Dominion of Canada** occupies all the northern part of the American continent, except Alaska and a part of Labrador. Its area is nearly as great as that of the United States (3,777,500 square miles).

The Dominion of Canada consists of the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, and British Columbia. It also comprises the provisional districts of Athabasca, Alberta, Saskatchewan, Assiniboia, Ungava, Franklin, Mackenzie, and Yukon, together with the district of Keewatin. All of these divisions, other than the provinces, occupy the region designated the North-west Territories. In the Yukon division is the famous Klondike gold region.

2. **Government.**—"The Dominion" is a semi-independent federation of British provinces. The chief executive officer is the Governor-General, who is appointed by the sovereign of Great Britain. The legislature, called the Parliament, consists of the House of Commons, the members of which are elected by the people; and the Senate, whose members are appointed by the Governor-General. Ottawa, in Ontario, is the capital of the Dominion.

While the Dominion government regulates all federal matters (as does the general government in our own country), each province has its local government, consisting of a legislature, elected by the people, and a lieutenant-governor, appointed by the Dominion government.

3. **Commerce.**—Canada carries on an extensive trade with the United States and England. With the exception of these nations, it has a larger commercial marine than any other country.

It imports cloths, cutlery, etc., from Great Britain, and pork, tobacco, and manufactured articles from the United States. The exports are lumber, wheat, potash, fish, and furs, to England; and lumber, barley, dairy-products, and live-stock, to the United States. Gold, nickel, and coal are also exported.

The great natural highway of Canadian commerce is the St. Lawrence River and the Great Lakes, the latter being connected by canals. The St. Lawrence, navigable for large ships to Montreal, affords communication between the Great West and the Atlantic. The river is closed by ice for five months of the year, when the ocean outlet for Canadian produce is by way of Portland, Me.

4. **Civilization.**—In civilization the Dominion ranks with the United States: the people are educated, prosperous, and progressive.

5. **Cities.**—Montreal is the largest city in the Dominion. Quebec is the capital of the Province of Quebec; Toronto, of the Province of Ontario. St. John is the principal city of New Brunswick, and Fredericton its capital. Halifax is the capital and largest city of Nova Scotia; and Charlottetown, of Prince Edward Island. Winnipeg is the capital of Manitoba; and Victoria, of British Columbia.

NEWFOUNDLAND.

1. **Description.**—The Island of Newfoundland forms a British colony separate from the Dominion of Canada.

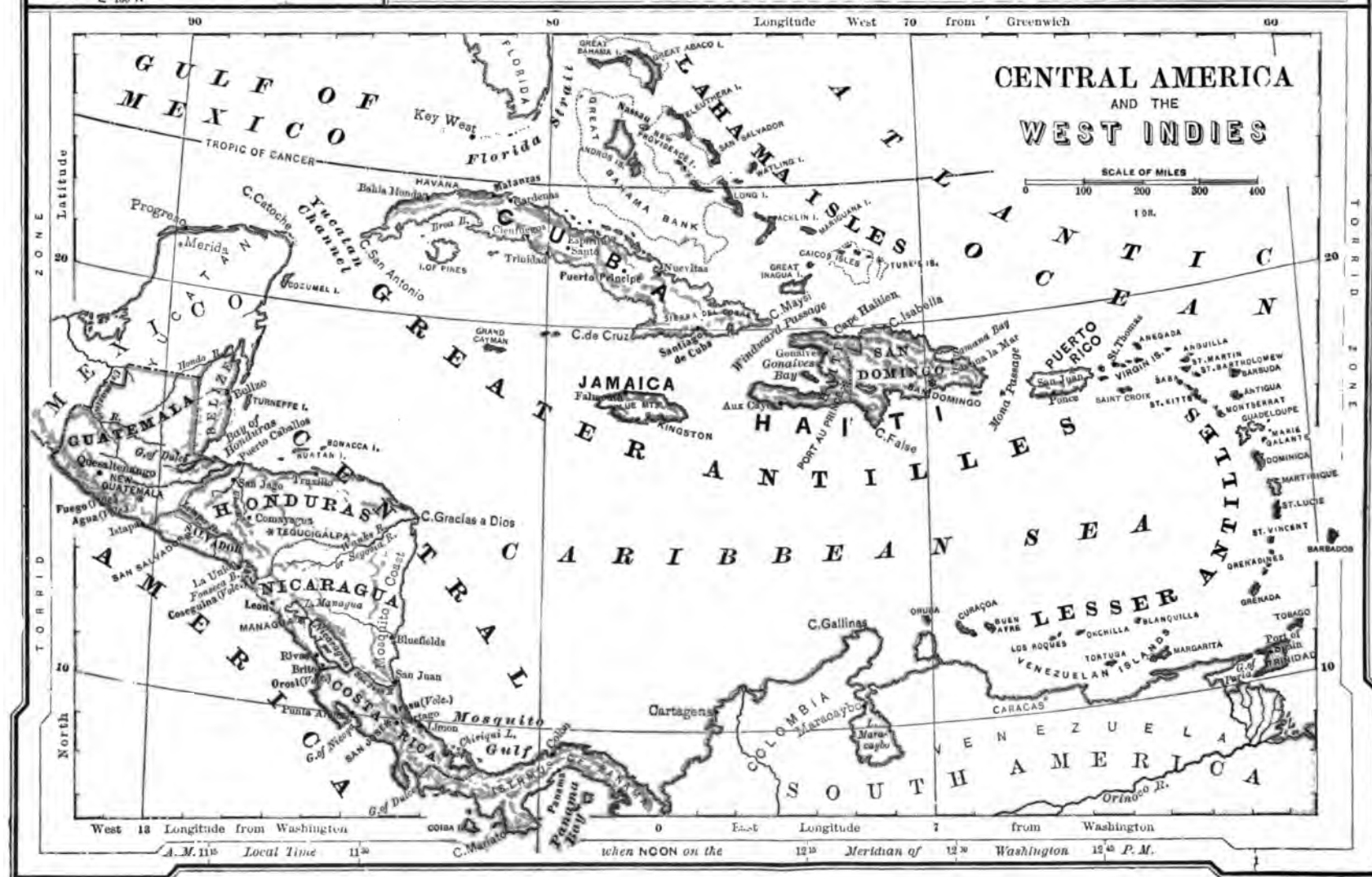
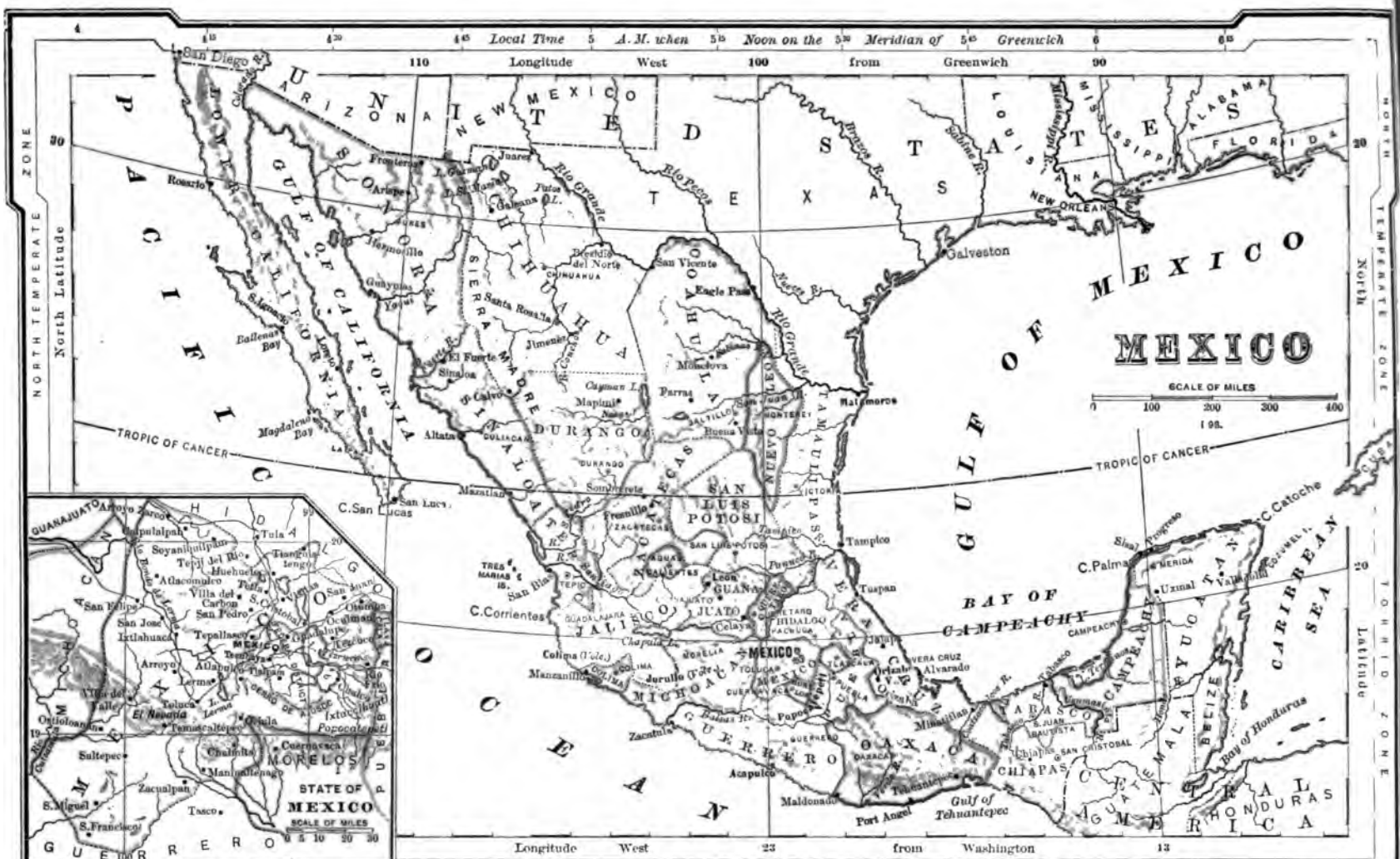
The government of Newfoundland includes also the east coast of Labrador.

2. **The fisheries** form the sole wealth of the island. The cod-fisheries on the Banks of Newfoundland are the greatest and most important fisheries in the world. The salmon and herring fisheries of Labrador are also important.

The "Banks," as they are called, are elevated plateaus in this part of the ocean, rising far above the surrounding bottom of the sea. They form the favorite feeding-ground of the codfish. The *Grand Bank*, situated to the east and south of the island, extends about 300 miles in length, and 200 in breadth. The depth of water on the Banks varies from 150 to over 500 feet.

The cod are found in extraordinary abundance, and their annual capture in this locality for the last two hundred years does not appear to have diminished in any degree the vast multitude of their shoals. Thousands of vessels every year repair to the Banks for cod-fishing. From February to April their crews are employed from morning till night in boats containing from two to four men each.

3. **St. Johns**, the capital, is the chief commercial station in the island.



QUESTIONS ON THE MAP.

Mexico.—Bound Mexico. In what two zones is it? What bay east? What gulf in the north-west? What peninsula? What peninsula in the south-east? What mountain-chain traverses the country? Has Mexico any long rivers? What large river forms a partial boundary between Mexico and the United States? What river flows into the Gulf of California? What city is the capital? Name the seaports of the Gulf Coast. Of the Pacific coast. Name three cities nearly in 21° north latitude.

Central America.—In what direction does Central America extend? With what country is it connected on the north-west? On the south-east? Name the divisions in their order from north to south. Which are on the Pacific Coast? On the Caribbean Sea? On both? In which republic is Lake Nicaragua? Where is the city of New Guatemala? Of San Salvador? Of Managua? Where is Comayagua? Where is Belize? San José?

West Indies.—What three large West India Islands are in a line nearly east and west? What sea south of those islands? What island south of Cuba? Where is Kingston? In what direction are the Bahamas from Haiti? Where is Matanzas? Name the strait separating Florida from the West Indies. What island is so situated as to command the entrance of the Gulf of Mexico? Which of the groups of the West India Islands extends north of the Tropic of Cancer? In which group of islands is St. Thomas? In which group is Barbados?

MEXICO.

1. **Area.**—The area of Mexico (751,500 square miles) is nearly double that of all the Atlantic States.

2. **Surface.**—The Pacific Highland of North America reaches its greatest elevation in Mexico. Two mountain-ranges, situated near the opposite coasts, extend from north-west to south-east, and are the margins of a great mountain-plateau (from 4,000 to 8,000 feet in altitude), which forms the greater part of the country.

Between the mountains and the coast on each side is a belt of low-land, varying from a few miles to one hundred miles in width. The coast-belt is called the *tierra caliente*, or hot country; the table-land is called the *tierra templada*, or temperate country.

3. **Climate.**—Climate in Mexico depends very much upon the degree of elevation of the surface. The coast plains are hot, moist, and unhealthy; the table-land is a region of perpetual spring; the high mountains have a cold climate.

4. **Inhabitants.**—The inhabitants consist of Mexican Indians, who form the majority; of creoles, who are descendants of the early Spanish settlers; and of mixed races.

At the time of the discovery of America Mexico was inhabited by a superior race of Indians called Aztecs. They had fixed homes, good laws, large cities, and well-drilled armies. They were conquered by Cortez, who, with a small army of Spaniards, aided by a large army of Indians hostile to the Aztecs, captured the city of Mexico, the Aztec capital. Mexico became a republic, independent of Spain, in 1821. It at one time included California, Texas, Nevada, Utah, Arizona, New Mexico, and parts of Oklahoma, Kansas, Colorado, and Wyoming, now a part of our own country. Texas became independent of Mexico in 1836, and Mexico lost California in 1848. The population of Mexico is now more than 12,500,000.

5. **Commerce.**—The foreign commerce is mostly with the United States and Great Britain. The principal exports are silver, lead, vanilla, sarsaparilla, coffee, cochineal, and mahogany.

6. **Government.**—Mexico is a federal republic, consisting of twenty-seven states, two territories, and one federal district.

7. **Cities.**—The City of Mexico, the capital and metropolis, is a picturesque city, situated in a valley overlooked by lofty snow-covered mountains. Guadalajara, Guanajuato, and Puebla are important cities of the table-land. Vera Cruz and Acapulco are the chief seaports.

CENTRAL AMERICA.

REPUBLICS.	Area in Sq. Miles.	Population.	REPUBLICS.	Area in Sq. Miles.	Population.
Guatemala . . .	48,303	1,460,017	Nicaragua . . .	47,859	312,845
Salvador . . .	8,135	663,613	Costa Rica . . .	20,877	214,264
Honduras . . .	46,264	331,917	Belize (Colony) .	8,292	27,668

1. **Situation and States.**—Central America occupies a long isthmus between the Atlantic and Pacific oceans, and as a territorial division includes five independent republics; namely, Guatemala, Salvador, Honduras, Nicaragua, and Costa Rica, together with Belize, a British dependency.

2. **Description.**—The surface, climate, productions, and population of Central America are similar to those of Mexico.

3. **Commerce.**—The small foreign commerce consists principally in the exportation of coffee, cochineal, mahogany, rose-wood, and dye-woods.

4. **Cities.**—The capitals of the republics, in the order given above, are, New Guatemala, San Salvador, Tegucigalpa, Managua, and San José.

Belize.—Belize, or British Honduras, is attached to the government of Jamaica. The town of Belize is the principal place.

WEST INDIES.

DIVISIONS.	Area in Sq. Miles.	Population.	DIVISIONS.	Area in Sq. Miles.	Population.
Cuba & Puerto Rico	49,500	2,328,000	Danish Colonies	140	34,000
British Colonies .	13,300	1,362,000	REPUBLICS.		
French Colonies .	1,100	341,000	Haiti	11,070	960,000
Dutch Colonies .	430	46,500	San Domingo . .	18,750	417,000

1. **Situation.**—The West Indies form an archipelago which extends from Florida to South America.

The West Indies include not less than a thousand islands, varying greatly in size. The land surface of the archipelago is about twice that of New York State.

2. **Divisions.**—These islands are divided into the Greater Antilles, the Lesser Antilles, and the Bahamas.

3. **Climate.**—The climate of the West Indies is tropical; but the influence of the surrounding seas and of the trade-winds moderates the intense heat of the Torrid Zone. The only change of seasons is that from dry to rainy weather.

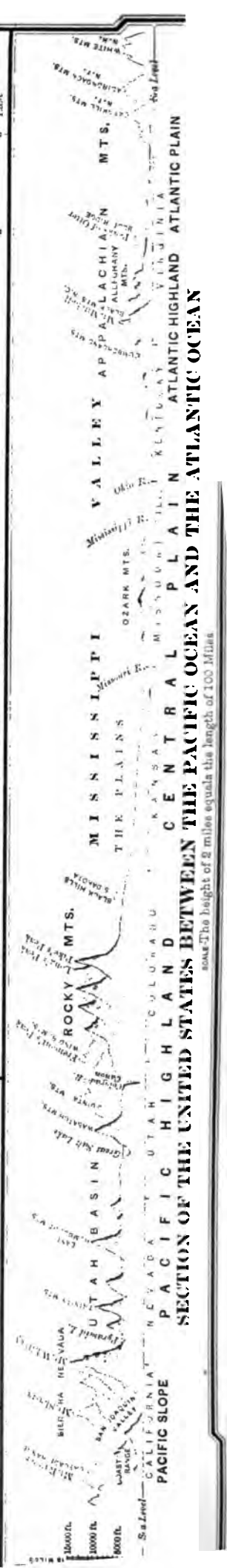
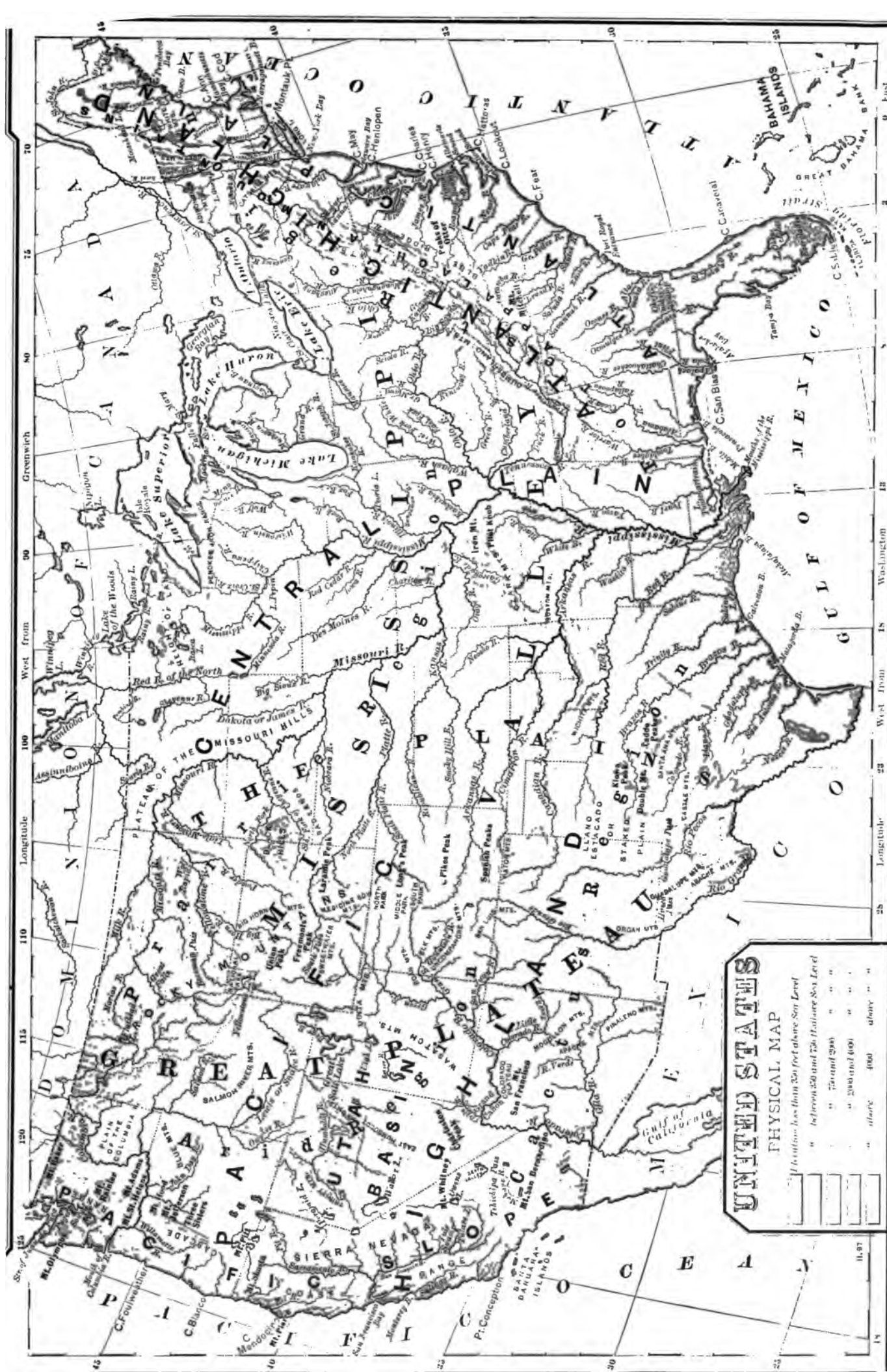
4. **Productions.**—The chief articles of commercial produce are sugar, rum, and molasses, from the sugar-cane; tobacco which makes the finest of cigars; cotton, coffee, and cacao; indigo and dye-stuffs; ginger and allspice; together with oranges, bananas, pine-apples, and many other delicious fruits.

5. **Population.**—The population of the West Indies numbers about five and a half millions, three-fourths being negroes.

The early Spanish conquerors enslaved the native Indians, and worked them so hard that they eventually died out. Then the Spaniards brought great numbers of African slaves to these islands, and the blacks of the West Indies are their descendants.

6. **Government.**—Many of the islands of the West Indies are in the possession of European nations, principally Great Britain (which owns Jamaica, the Bahamas, and most of the Lesser Antilles) and France. Cuba and Puerto Rico are controlled by the United States. Haiti consists of two independent negro republics,—Haiti and San Domingo.

7. **Cities.**—The principal cities are Havana, the greatest sugar-market in the world, Matanzas, and Santiago (all three in Cuba), Kingston, the largest city in Jamaica, and San Juan in Puerto Rico.



PHYSICAL UNITED STATES.

QUESTIONS ON THE PHYSICAL MAP.

Bound the United States. Which boundaries are natural boundaries? Between what degrees of latitude is the United States included? Between what degrees of longitude? What is the general direction of the Atlantic coast? Of the Pacific coast? Name all the capes from Cape Cod to Cape Sable (s.). What capes on the Pacific coast?

What highland region in eastern part of the United States? What plain to the east? To what ocean does it slope? What mountains in the Atlantic Highland? In what latitude is the southern termination of the Appalachian Mountains?

What great valley is between the Atlantic Highland and the Pacific Highland? Of what does the Mississippi Valley form a part? *Ans.* Of the Central Plain of North America. What great river drains this valley? Where is its source? Name its principal tributary from the Atlantic Highland. Its principal tributaries from the Pacific Highland.

What highland occupies the western half of the United States? What mountain-system divides it into two nearly equal parts? What region is east of the Rocky Mountains? What great rivers cross the Plains? What region is west of the Rocky Mountains? What plateau and "basin" (which is also a plateau) are in this region? What plain in the

northern part of this region? What lake in the Utah Basin? What river drains the central part of the Great Plateau? Where does it rise? and into what does it flow? What river drains the northern part of the Great Plateau? What two mountain-ranges border the Great Plateau on the west? What range near the Pacific coast? Where is the Pacific Slope?

Name the Great Lakes. Which one is wholly within the United States? What river drains the Great Lakes? In what direction do most of the rivers of the Atlantic Highland flow? What river breaks through the Appalachian Mountains? Of what river is it a tributary?

GENERAL VIEW.

1. **Position.**—The United States occupies the central and most valuable part of North America, being (Alaska excepted) wholly in the North Temperate Zone, and extending from Canada on the north to the Gulf of Mexico on the south.

2. The average length of the United States from the Atlantic to the Pacific Ocean is about 2,500 miles, and the average breadth, about 1,200 miles. The area, including Alaska, is 3,668,000 square miles.

3. The surface presents three natural divisions, —the *Pacific Highland*, the *Atlantic Highland* and *Plain*, and the *Central Plain*, or *Mississippi Valley*.

I. THE PACIFIC HIGHLAND.

4. The western half of the United States is included within the Pacific Highland of North America. The Pacific Highland presents the following surface features:—

I. The **Rocky Mountains**, which, extending from north to south, divide the Highland into two nearly equal sections.

The Rocky Mountains form the chief watershed of the United States; and five of the largest rivers—the Missouri, the Rio Grande, the Colorado, the Columbia, and the Yukon—have their head streams in this region.

DESCRIPTION.

II. "**The Plains**," which extend eastward from the Rocky Mountains, descending in a long gentle slope to the valley of the Mississippi.

III. The **Great Plateau**, bordered on the east by the Rocky Mountains, and on the west by the lofty chains of the Sierra Nevada and Cascade Mountains. It includes the Colorado Plateau in the southeastern part, the Utah Basin in the central part, and the Plain of the Columbia in the northern part.

I. The Colorado Plateau is from 6,000 to 7,000 feet above the ocean level; the Utah Basin, from 4,000 to 5,000 feet; the Plain of the Columbia, about 2,000 feet.

II. The Great Plateau is drained by three great rivers,—the Columbia, which, after bursting the barrier of the Cascade range, flows into the Pacific Ocean; the Rio Grande, which flows southward from the Rocky Mountains into the Gulf of Mexico; and the Colorado, which, forcing its way through stupendous chasms and cañons, reaches the Gulf of California.

IV. The **Pacific Slope**, which extends from the Sierra Nevada and Cascade ranges westward to the Pacific Ocean. Between these chains and the lower elevations of the coast ranges are inclosed the great California Valley and the valleys of Oregon.

5. **Climate.**—The Pacific Highland has, in general, a very dry climate, with but little rain in summer, and little snow in winter. The Pacific Slope has a climate unlike that of any other part of the

United States: there are but two seasons, the rainy season (winter) and the dry season (summer).

6. **Natural Advantages.**—This section is the richest metalliferous region on the globe. Gold, silver, quicksilver, coal, and many other minerals abound. The forests of California, Oregon, and Washington, afford an exhaustless supply of the finest timber. The river valleys, especially in California and Oregon, are of great fertility, and excellent pasturage is found.

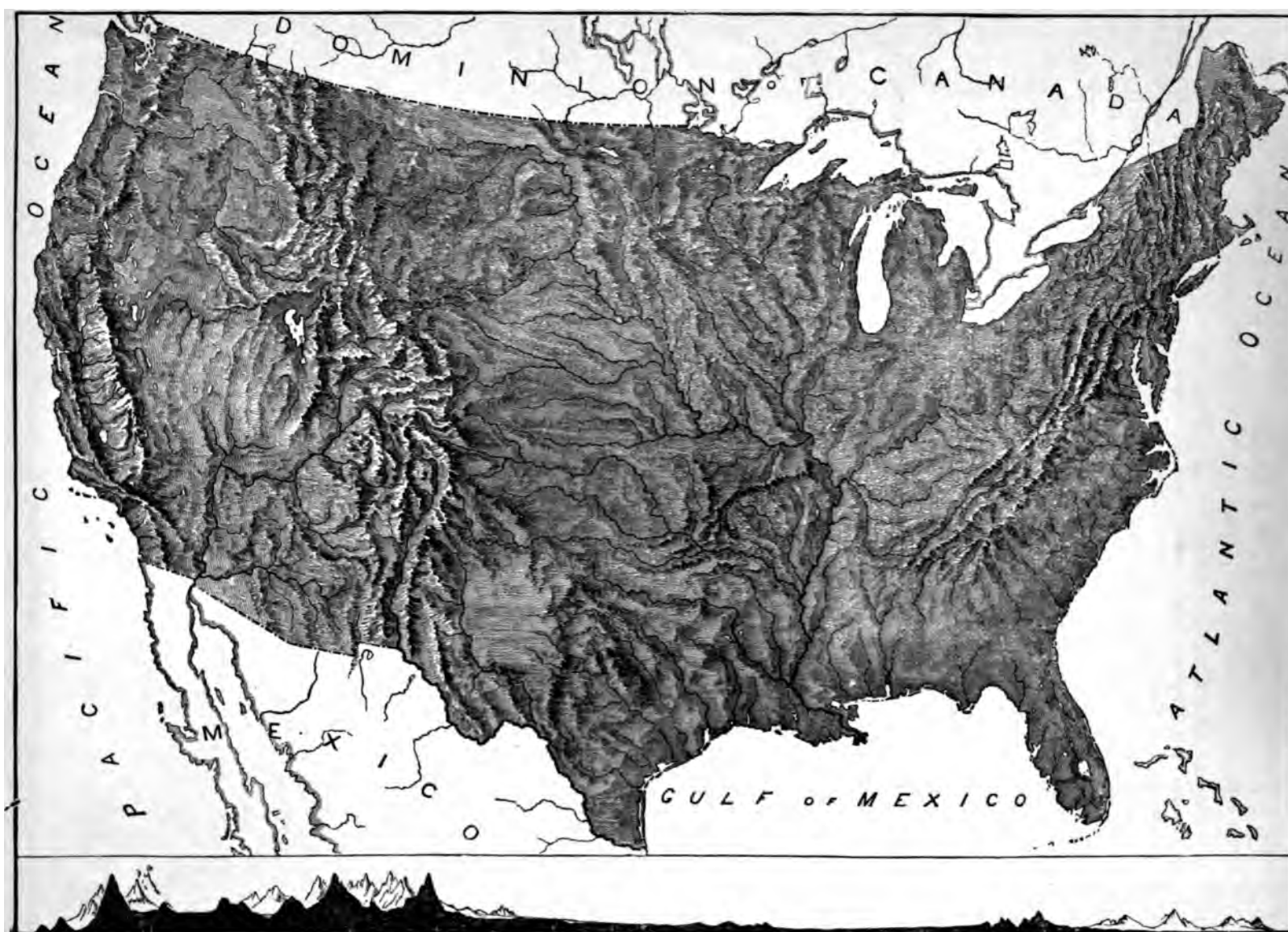
II. THE ATLANTIC HIGHLAND AND PLAIN.

7. The **Atlantic Highland** consists of the several parallel ranges of the Appalachian system, and extends from Canada nearly to the Gulf of Mexico.

The Appalachian system is intersected by the valleys of the Hudson and Mohawk rivers, thus forming a northern section, comprising New England and a part of New York; and a southern section, including all the rest of the Atlantic Highland.

8. The **Atlantic Plain** is the slope from the Appalachian system to the Atlantic Ocean.

The Atlantic Plain varies in width according as the mountains approach or recede from the coast. In New England it is about fifty miles in width, and at the mouth of the Hudson it narrows to a mere strip of coast; but it broadens southward to a width of three hundred miles.



PHYSICAL VIEW OF THE UNITED STATES.

9. Rivers.—The Atlantic Plain is drained by numerous navigable rivers, which flow at right angles with the Appalachian system into the Atlantic Ocean.

The larger rivers of the Atlantic Plain are navigable to the head of tide-water, the limits of which are marked by falls or rapids, as those of the Schuylkill at Philadelphia, of the Potomac at Georgetown, and of the James at Richmond. These falls and rapids furnish water-power.

10. Climate.—The Atlantic Highland and Plain, though wholly in the Temperate Zone, have a variety of climates. The North Atlantic section is naturally colder than the South Atlantic section. The winters on the Atlantic seaboard are, owing to local causes, much colder than those of the Pacific coast; and the Atlantic Highland and Plain differ from the Pacific Highland in having abundant rains, and being well watered throughout.

The rains of this section are supplied by the moist winds from the Atlantic Ocean, the Gulf of Mexico, and the Great Lakes.

11. Natural Advantages.—The principal natural advantages of the Atlantic Highland and Plain are their rich deposits of coal and iron, their extensive forests, generally fertile soil, abundant water-power, and situation on the Atlantic seaboard.

III. THE MISSISSIPPI VALLEY.

12. Extent.—The Mississippi Valley extends between the Atlantic Highland and the Pacific Highland, and occupies nearly one-half the area of the United States.

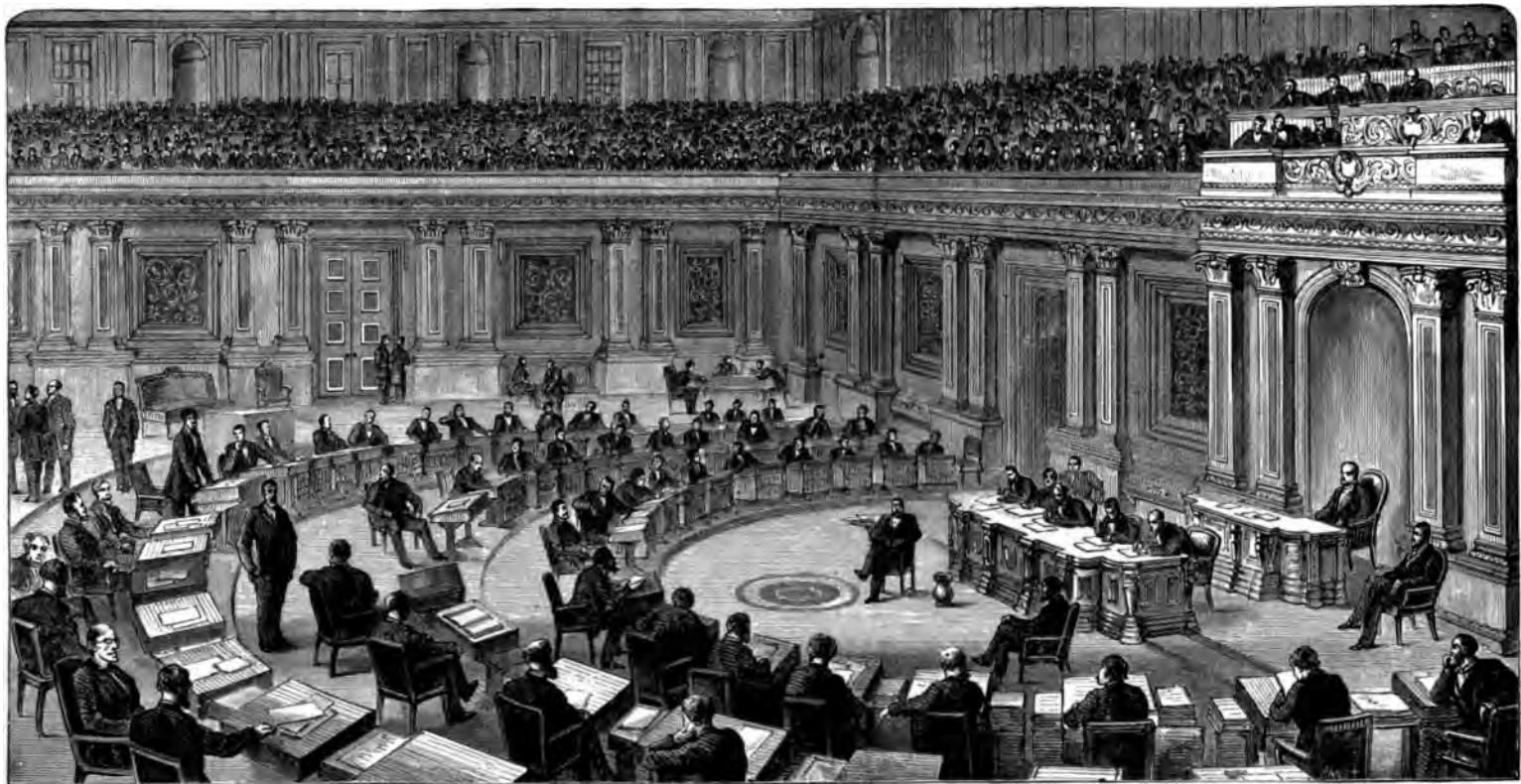
Much of this region is undulating, parts are hilly, and there are a few detached mountain districts; but on the whole the surface is that of a plain, with slopes toward the center from each of the two highland regions, and a general slope from the Height of Land southward to the Gulf of Mexico.

13. Drainage.—The Mississippi and its many tributaries, forming, next to the Amazon system, the most extensive river system in the world, furnish the principal drainage of the Mississippi Valley.

14. Climate.—The southern part has a semi-tropical climate, with mild winters; the northern has hot and sultry summers, and cold winters, with heavy snows. The whole section has abundant rains from the Gulf of Mexico and the Great Lakes.

15. Natural Advantages.—The principal natural advantages of the Mississippi Valley are its rich mines of coal, iron, copper, and lead, its vast forests, its great extent of fertile soil, and its numerous navigable rivers and lakes.

POLITICAL UNITED STATES.



INTERIOR OF THE SENATE CHAMBER IN THE CAPITOL AT WASHINGTON.

DESCRIPTION.

1. **Rank.** — The United States is the leading republic in the world, and ranks as one of the five most populous, powerful, wealthy, and progressive nations.

In extent of territory the United States ranks fourth among the great powers, being surpassed only by the Chinese, British, and Russian Empires.

2. **The population** by the census of 1890 was over sixty-three millions.

3. **General Government.** — The general or federal government of the United States is republican in form (representative democracy). It has three departments, — the legislative, executive, and judicial.

I. The *legislative* department, or Congress, is composed of two bodies or houses, — the Senate and the House of Representatives.

II. The *executive* function is vested in a President, who is chosen for a term of four years.

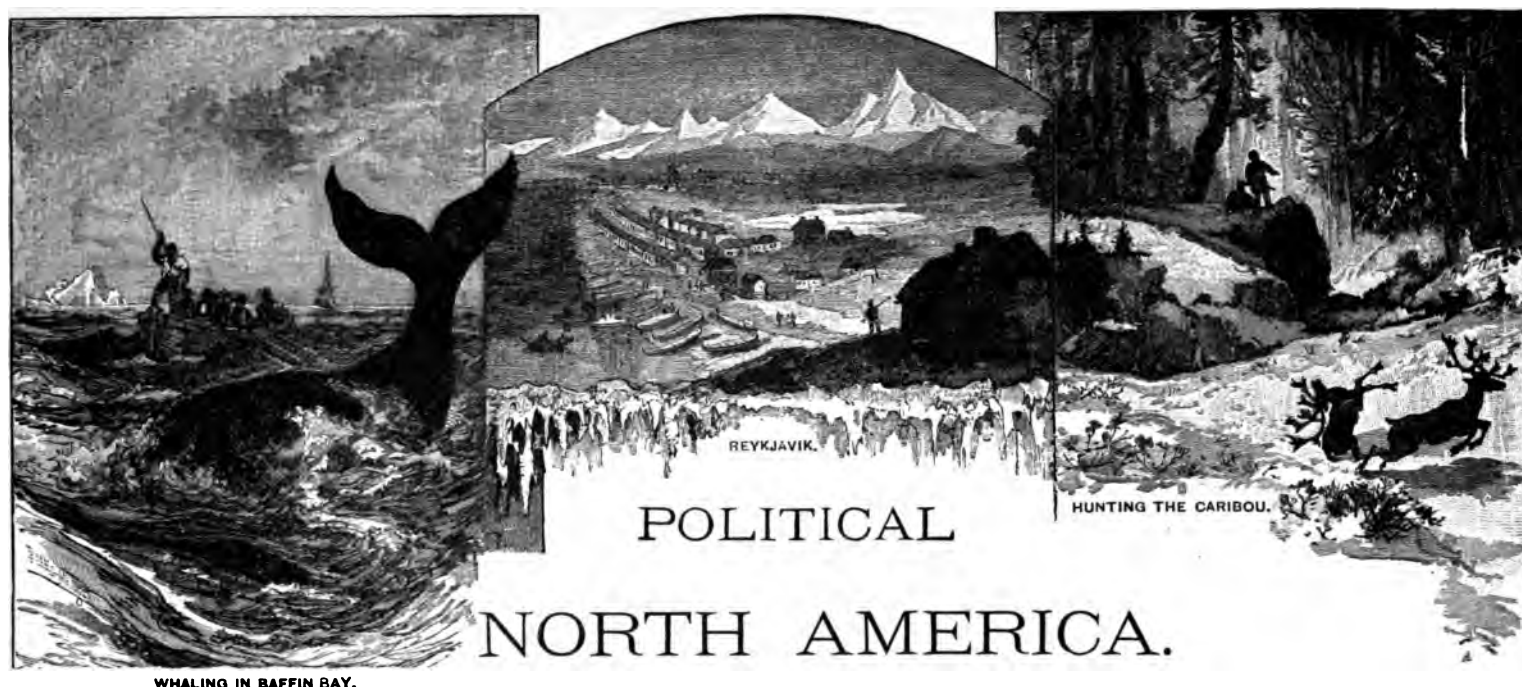
III. The *judicial* function is vested in a Supreme Court, consisting of a Chief Justice and eight Associate Judges, who hold a session once a year in Washington City.

4. **National Capital.** — Washington, the capital of the United States, is in the District of Columbia.

5. **Political Divisions.** — The United States consists of forty-five States, five Territories, and the District of Columbia, and has possessions in the Pacific, and in the West Indies. In this book, sections are formed as follows :—

New-England States.	Middle States.	Southern States: Eastern Division.	Southern States: Western Division.	Central States: Eastern Division.	Central States: Western Division.	Pacific Highland States: Mountain and Plateau Divisions.	Pacific Highland States: Coast Division.
1. Maine. 2. New Hampshire. 3. Vermont. 4. Massachusetts. 5. Rhode Island. 6. Connecticut.	1. New York. 2. New Jersey. 3. Pennsylvania. 4. Maryland. 5. Delaware. 6. <i>District of Columbia.</i>	1. Virginia. 2. West Virginia. 3. North Carolina. 4. South Carolina. 5. Georgia. 6. Florida. 7. Kentucky. 8. Tennessee. 9. Alabama. 10. Mississippi.	1. Louisiana. 2. Arkansas. 3. Texas. 4. <i>Indian Territory.</i> 5. <i>Oklahoma Ter.</i>	1. Ohio. 2. Indiana. 3. Illinois. 4. Wisconsin. 5. Michigan.	1. Minnesota. 2. Iowa. 3. Missouri. 4. Kansas. 5. Nebraska. 6. South Dakota. 7. North Dakota.	1. Montana. 2. Wyoming. 3. Colorado. 4. <i>New Mexico Ter.</i> 5. Idaho. 6. Nevada. 7. Utah. 8. <i>Arizona Ter.</i>	1. California. 2. Oregon. 3. Washington. 4. <i>Alaska Ter.</i>





QUESTIONS ON THE POLITICAL MAP.

I.

General. — What two countries occupy the greater part of North America? What political division is north-east of the Dominion of Canada? North-west? What country is south-west of the United States? South-east of Mexico? What division is south-east of the United States?

Danish America. — What two islands constitute Danish America? What is the capital of Iceland? What is the most northern town in N. A.?

Dominion of Canada. — Bound the Dominion of Canada. What is the capital? Name two cities on the St. Lawrence River. What island east of the Gulf of St. Lawrence? Does it belong to the Dominion of Canada?
Ans. No: it is a separate British colony. What is its capital?

United States. — Bound the United States. What is the capital? Name four Atlantic seaports. What city near the mouth of the Mississippi? On the Pacific coast? On Lake Michigan? Near the mouth of the Missouri?

Mexico. — Bound Mexico. What is its capital? Its chief seaports?

Central America and West Indies. — Bound Central America. What city in the north-west? Name the four largest islands of the West Indies. Name a city in each.

II.

Islands. — In what direction is it from the nearest land? By what waters surrounded?

Greenland? Iceland? Newfoundland? Cape Breton? Bermuda Isles?

West Indies? Cuba? Haiti? Jamaica? Puerto Rico? Bahama Isles? Vancouver? Queen Charlotte? Sitka?

Peninsulas. — From what part of North America does it project? Into what water, or between what waters?

Labrador? Nova Scotia? Florida? Yucatan? Lower California?

Capes. — Where is it? Into what water does it project?

Point Barrow? Cape Farewell? Race? Sable (N.)? Sable (S.)? Hatteras? Cape San Lucas? Mendocino? Flattery? Prince of Wales?

Mountains. — In what part of North America is it? In what direction does it extend?

Rocky? Sierra Nevada? Cascade? Coast? Sierra Madre? Appalachian?

Sea, Gulfs, and Bays. — Where is it? Of what body of water is it an arm? Baffin? Hudson? James? St. Lawrence? Delaware? Chesapeake? Mexico? Caribbean? California? Bering?

Straits. — Between what lands? What waters does it connect?

Davis? Hudson? Belle Isle? Florida? Bering?

Lakes. — Where is it? What is its outlet?

Great Bear? Great Slave? Athabasca? Winnipeg? Superior? Michigan? Huron? Erie? Ontario? Great Salt? Nicaragua?

Rivers. — Where does it rise? In what direction, and into what, does it flow?

St. Lawrence? Hudson? Mississippi? Missouri? Ohio? Rio Grande? Colorado(1)? Colorado(2)? Columbia? Yukon? Mackenzie? Saskatchewan? Arkansas?

DESCRIPTION.

POLITICAL DIVISIONS.

North America comprises six political divisions: *Danish America*, the *Dominion of Canada* and *Newfoundland*, the *United States*, *Mexico*, *Central America*, and the *West Indies*.

DANISH AMERICA.

1. **Danish America** includes Greenland and Iceland. They belong to the kingdom of Denmark.

2. **Greenland.** — The population (about 10,000) consists of Esquimaux and a few Danes and Norwegians who have small trading and shipping settlements at Godthaab, Uper-

navik, and other points. The chief exports are eider-down, whale and seal oil, and furs.

Greenland is a very large island, or perhaps a cluster of islands, joined by ice. The interior has never been explored. The mountain valleys are filled with glaciers, which, moving slowly to the sea, become undermined on reaching the ocean, and immense fragments are broken off, forming the floating mountains of ice called icebergs.

3. **Iceland.** — The inhabitants of Iceland are mostly of Norwegian descent. The small but intelligent population of the island (69,000) is engaged in farming, fishing, and sheep-raising. Reykjavik is the capital.



QUESTIONS ON THE MAP.

BOUNDARIES AND DIVISIONS.

Bound the Dominion of Canada. What province is largely on the Pacific Ocean? What division is bounded on the west by the United States Territory of Alaska? What between Keewatin and British Columbia? North of Athabasca? North of Mackenzie, Keewatin, and Ungava? Bound Ontario? Queen Charlotte Islands? What gulf east of Vancouver Island? What lakes are drained by Mackenzie River? Where are the

no. Quebec. New Brunswick. What province is a peninsula? What one north of Nova Scotia is an island? What provinces and other divisions adjoin the United States? Where is Ottawa, the capital of the Dominion of Canada? it flow? What is the capital?

BRITISH COLUMBIA.

Describe the boundaries of British Columbia. What large islands belong to this province? What waterway north of districts?

NORTH-WEST TERRITORIES.

How has this region been divided? *Ans.* Into a number of districts. What is its largest river, and into what does it flow? What lakes are drained by Mackenzie River? Where are the

provisional districts of Yukon, and Mackenzie? Describe their boundaries. What island division on the north? *Ans.* Franklin. What great bay within the North-west Territories? What division occupies the south-eastern part of this great region? *Ans.* Ungava. Name the principal rivers flowing into James Bay. What waters does Hudson Strait connect? Where is Athabasca? Alberta? Saskatchewan? Assiniboia? What is the capital of these divisions? *Ans.* Regina, in Assiniboia.

KEEWATIN.

Describe the boundaries of the district of Keewatin. What large lake partly bounds it on the south-west? What river drains Lake Winnipeg? Into what bay does it flow?

MANITOBA.

Bound Manitoba. What rivers and lakes are partly in this province? What divisions of the United States south? What is the capital? What division is attached to Manitoba? *Ans.* The district of Keewatin.

ONTARIO.

What river between the provinces of Ontario and Quebec? Between Ontario and Keewatin? On which four of the Great Lakes does the former front? What river connects Lakes Erie and Ontario? Locate Toronto, the largest city and capital. Where is Hamilton?

QUEBEC.

How is Quebec bounded on the north? What are its other boundaries? What river and valley in this province? Is the greater part of it north, or south, of the St. Lawrence? What tributaries of the St. Lawrence in this province? Where is Montreal? Quebec? Which city is farthest south,—Montreal, or Quebec? Which is the capital? In what direction is Quebec from Portland? Montreal from New York?

NEW BRUNSWICK.

What gulf and bays form partial boundaries? What British province north? Which of the United States west? What

river forms a partial boundary between New Brunswick and Maine? Where is St. John? Fredericton?

PRINCE EDWARD ISLAND.

Where is the natural and political division of Prince Edward Island situated? Name the capital of this province.

NOVA SCOTIA.

What two natural divisions of land form Nova Scotia? What bay between it and New Brunswick? For what is the Bay of Fundy remarkable? *Ans.* For its tide, which often rises more than seventy feet at the head of the bay. What strait between the mainland and Cape Breton Island? What is the capital?

NEWFOUNDLAND.

What waters surround Newfoundland? What strait separates it from Labrador? What cape in the south-east? What is the capital? What part of British America is under the same government as Newfoundland? *Ans.* East Labrador.

DOMINION OF CANADA, WITH NEWFOUNDLAND.

DOMINION OF CANADA.

1. The Dominion of Canada occupies all the northern part of the American continent, except Alaska and a part of Labrador. Its area is nearly as great as that of the United States (3,777,500 square miles).

The Dominion of Canada consists of the provinces of Ontario, Quebec, New Brunswick, Nova Scotia, Prince Edward Island, Manitoba, and British Columbia. It also comprises the provisional districts of Athabasca, Alberta, Saskatchewan, Assiniboia, Ungava, Franklin, Mackenzie, and Yukon, together with the district of Keewatin. All of these divisions, other than the provinces, occupy the region designated the North-west Territories. In the Yukon division is the famous Klondike gold region.

2. Government. — "The Dominion" is a semi-independent federation of British provinces. The chief executive officer is the Governor-General, who is appointed by the sovereign of Great Britain. The legislature, called the Parliament, consists of the House of Commons, the members of which are elected by the people; and the Senate, whose members are appointed by the Governor-General. Ottawa, in Ontario, is the capital of the Dominion.

While the Dominion government regulates all federal matters (as does the general government in our own country), each province has its local government, consisting of a legislature, elected by the people, and a lieutenant-governor, appointed by the Dominion government.

3. Commerce. — Canada carries on an extensive trade with the United States and England. With the exception of these nations, it has a larger commercial marine than any other country.

It imports cloths, cutlery, etc., from Great Britain, and pork, tobacco, and manufactured articles from the United States. The exports are lumber, wheat, potash, fish, and furs, to England; and lumber, barley, dairy-products, and live-stock, to the United States. Gold, nickel, and coal are also exported.

The great natural highway of Canadian commerce is the St. Lawrence River and the Great Lakes, the latter being connected by canals. The St. Lawrence, navigable for large ships to Montreal, affords communication between the Great West and the Atlantic. The river is closed by ice for five months of the year, when the ocean outlet for Canadian produce is by way of Portland, Me.

4. Civilization. — In civilization the Dominion ranks with the United States: the people are educated, prosperous, and progressive.

5. Cities. — Montreal is the largest city in the Dominion. Quebec is the capital of the Province of Quebec; Toronto, of the Province of Ontario. St. John is the principal city of New Brunswick, and Fredericton its capital. Halifax is the capital and largest city of Nova Scotia; and Charlottetown, of Prince Edward Island. Winnipeg is the capital of Manitoba; and Victoria, of British Columbia.

NEWFOUNDLAND.

1. Description. — The Island of Newfoundland forms a British colony separate from the Dominion of Canada.

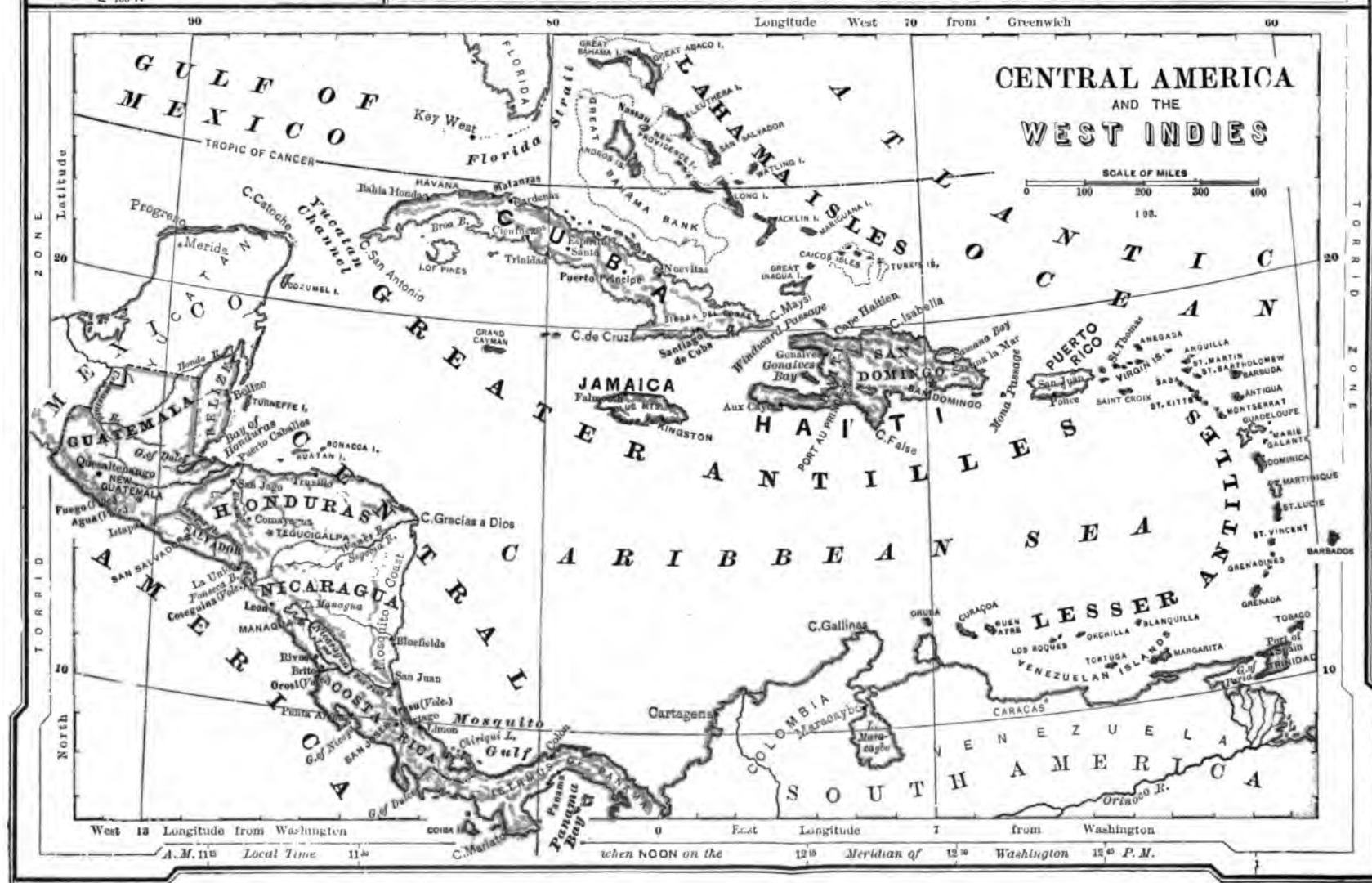
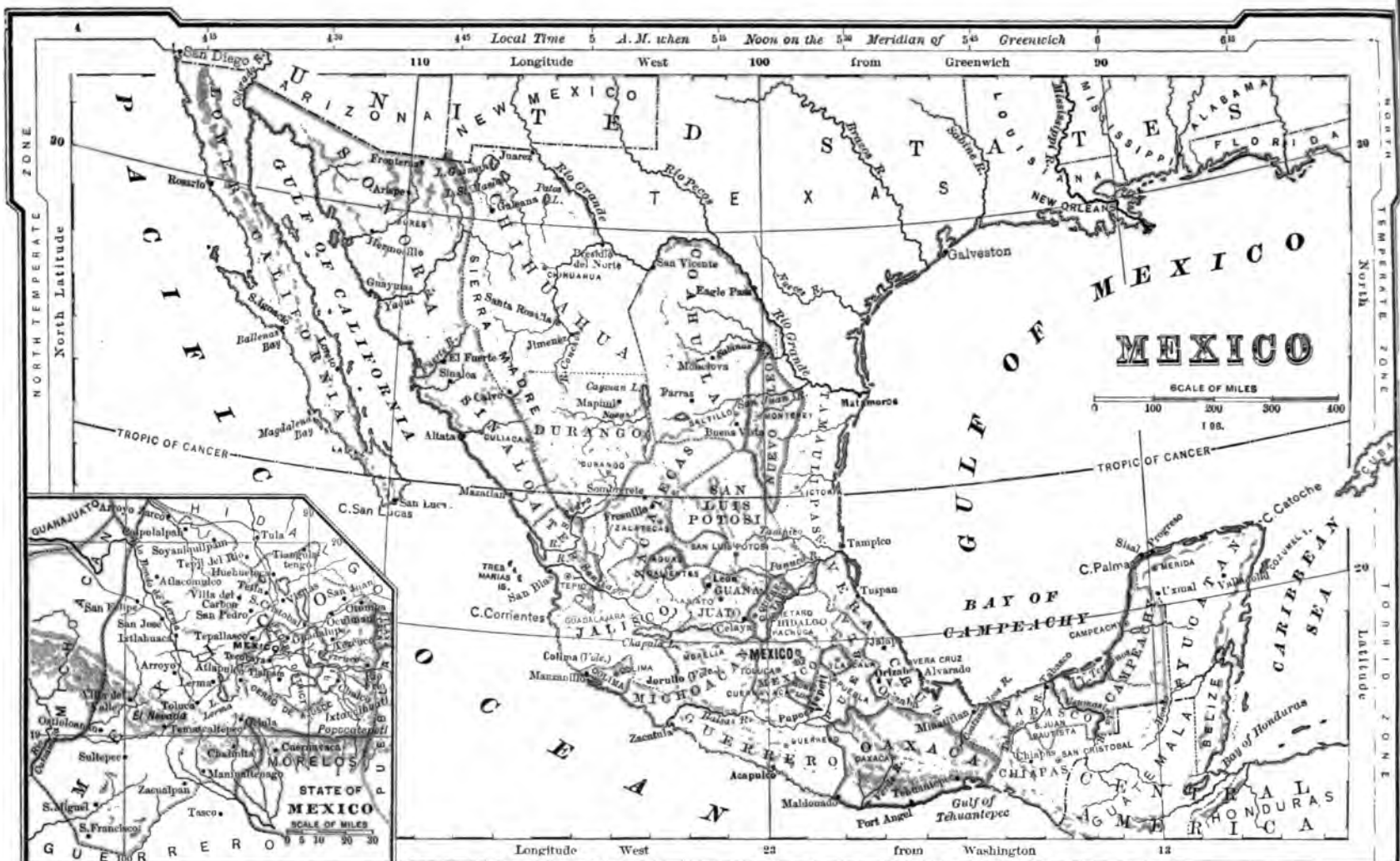
The government of Newfoundland includes also the east coast of Labrador.

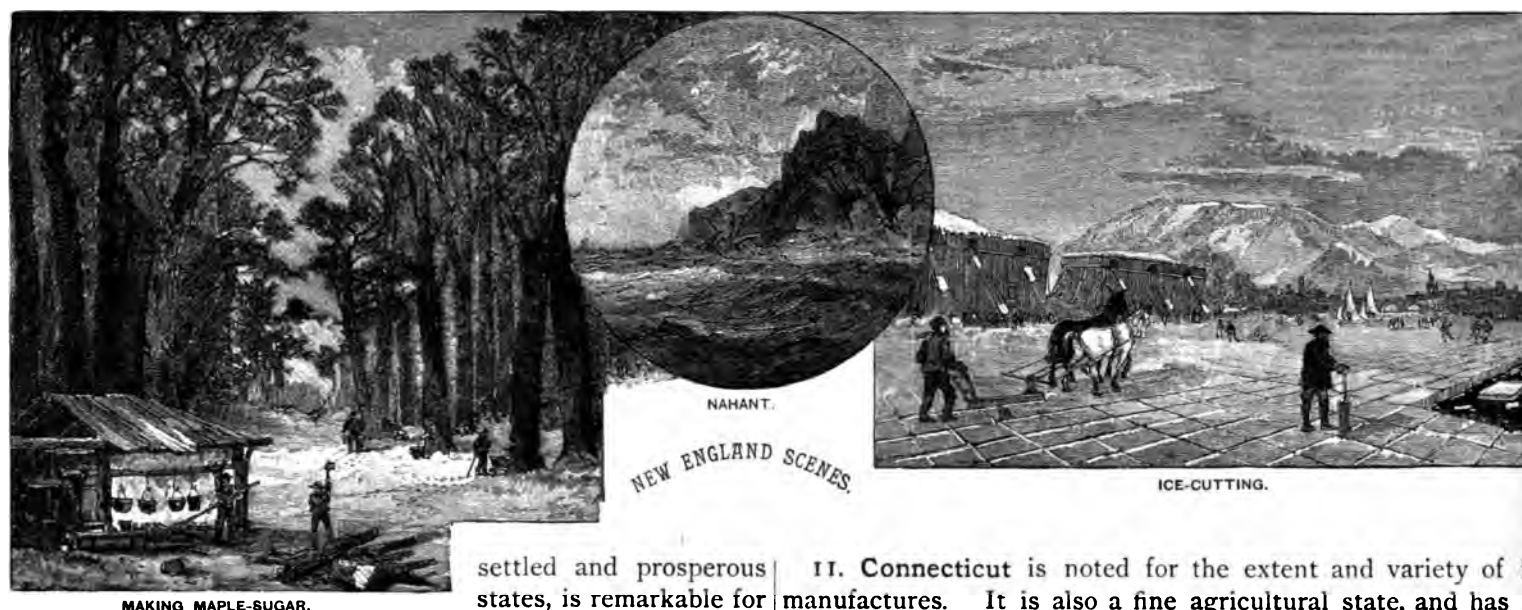
2. The fisheries form the sole wealth of the island. The cod-fisheries on the Banks of Newfoundland are the greatest and most important fisheries in the world. The salmon and herring fisheries of Labrador are also important.

The "Banks," as they are called, are elevated plateaus in this part of the ocean, rising far above the surrounding bottom of the sea. They form the favorite feeding-ground of the codfish. The *Grand Bank*, situated to the east and south of the island, extends about 300 miles in length, and 200 in breadth. The depth of water on the Banks varies from 150 to over 500 feet.

The cod are found in extraordinary abundance, and their annual capture in this locality for the last two hundred years does not appear to have diminished in any degree the vast multitude of their shoals. Thousands of vessels every year repair to the Banks for cod-fishing. From February to April their crews are employed from morning till night in boats containing from two to four men each.

3. St. Johns, the capital, is the chief commercial station in the island.





ton and woolen goods, hardware, jewelry, and plated ware.

10. **Chief Cities.** — Providence, the metropolis, is the second city in New England. Newport is a famous watering-place. These cities are both capitals.

settled and prosperous states, is remarkable for its manufactures of cot-

11. Connecticut is noted for the extent and variety of its manufactures. It is also a fine agricultural state, and has an extensive coasting-trade.

12. **Chief Cities.** — New Haven, the seat of Yale University, is the largest city. Hartford, at the head of ship-navigation on the Connecticut River, is the capital. Bridgeport, Waterbury, and Meriden are manufacturing centers.

SUPPLEMENTARY NOTES.

History. — The name "New England" was given in 1614, by Capt. John Smith, who examined the shore from Penobscot to Cape Cod, and drew the earliest map of the region. The first settlement in New England was made by the Pilgrim Fathers at Plymouth, Mass., in 1620. The first settlers in Maine were fishermen, who built huts along the coast soon after the landing of the Pilgrims. Maine continued a part of Massachusetts till 1820. The first settlements in New Hampshire were made in 1623, near Portsmouth and at Dover. Vermont was a part of New York and New Hampshire till 1791, when it came into the Union as a separate state. The first settlement in Rhode Island was made in 1636, at Providence, by Roger Williams and some friends. The first settlement in Connecticut was made in 1635, at Windsor.

Names. — The name "Maine" comes from the word *main*; this part of New England having early been called the "mayne land," in distinction from the islands. "New Hampshire" was so called by the first English proprietor, Capt. John Mason, who had previously been governor of Portsmouth in Hampshire, England. "Vermont" is derived from the French *ver*, green, and *mont*, mountain. "Massachusetts" is the native Indian name. "Rhode Island" is from the Dutch name of the island, — *Roodt Eylandt*, red island. "Connecticut" is the Indian name of the river, meaning *long river*.

Scenery. — The White Mountains of New Hampshire present the grandest scenery east of the Sierra Nevada, and are the resort of thousands of tourists every summer. From the top of Mount Washington, up whose steep sides a railroad of novel construction carries the traveler, a glimpse of the Atlantic, beyond Portland, is obtained. New England abounds in lakes, many of which are exceedingly beautiful. Moosehead in Maine is the largest, and Winnepesaukee in New Hampshire one of the most lovely. Other noted points are Mount Holyoke, Mass., from the summit of which a superb view of the picturesque Connecticut valley is obtained, the wave-worn promontory of Nahant, and Newport, the most fashionable watering-place on the Atlantic coast.

Specialties of Manufacture. — There is scarcely any article, from an anchor or a steam-engine to a pin, that is not made by the ingenious and industrious New-Englanders. The boots and shoes, the cutlery and fire-arms, of New England, are distributed to almost every part of the world.

The sewing-machine, one of the greatest of labor-saving contrivances,

was invented by Elias Howe of Massachusetts, in 1846. It has cheapened the manufacture of all kinds of clothing: boots and shoes are now sewed by it. The construction of these machines is an important branch of New England manufacture.

The process of vulcanizing India-rubber was discovered about the same time by Charles Goodyear of Massachusetts. Since this discovery, India-rubber has been turned to account in the fabrication of an endless number of useful articles. Rubber goods are extensively manufactured in Massachusetts and Connecticut.

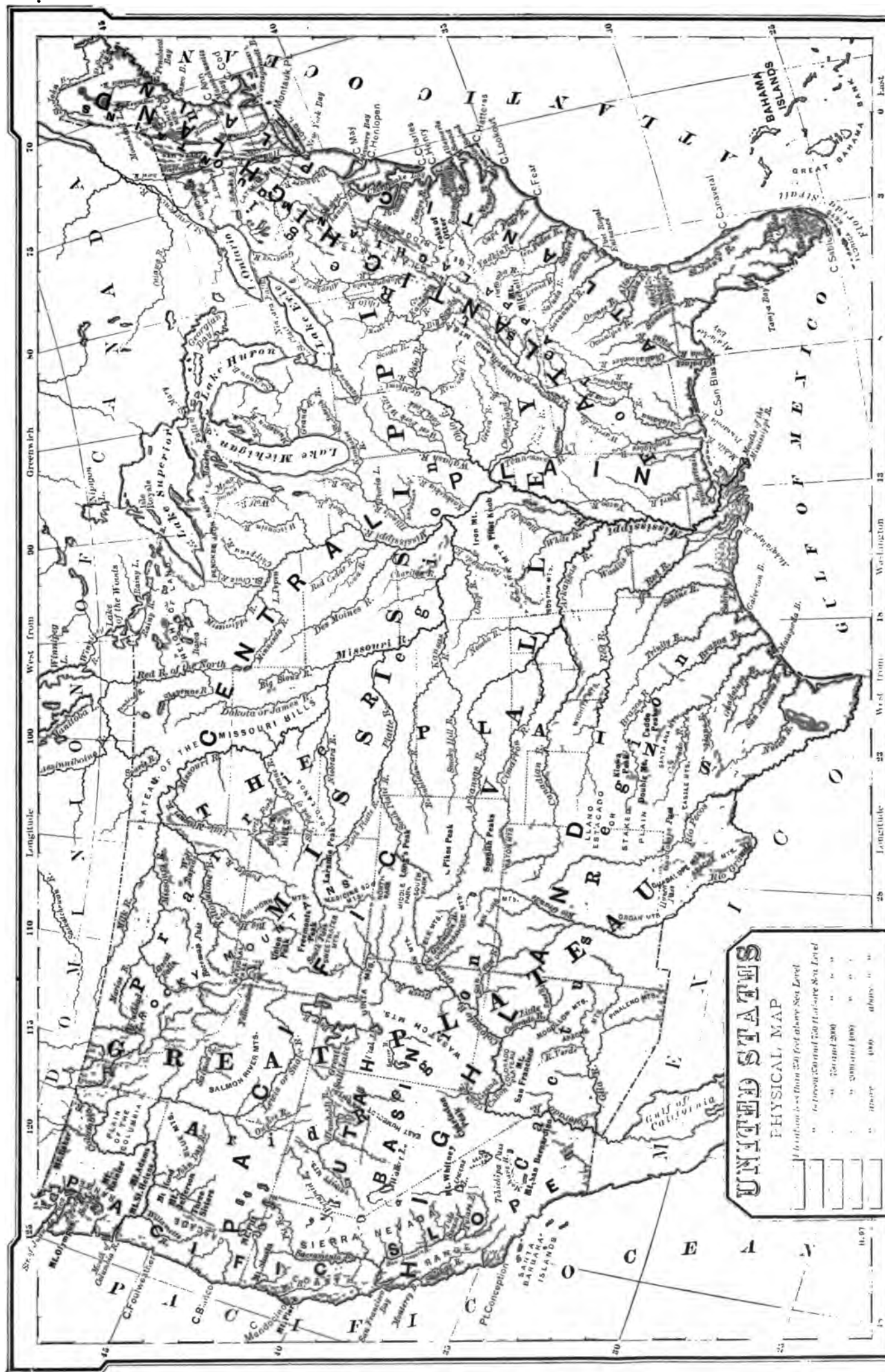
Among the thousand articles of New England workmanship may be mentioned paper, pianos, and pins (most of the pins used in the United States are manufactured at Waterbury and Birmingham, Conn.); combs, carriages, and clocks; buttons, buckles, and buckets; watches, wire, and wooden-ware; rifles, revolvers, and ribbons; screws, soap, and silver-ware; German-silver-ware and Britannia-ware; locks and jewelry; hooks and eyes; together with innumerable other small articles known under the name of "Yankee notions."

The great national armory of the United States is situated at Springfield, Mass. It is capable of turning out fifteen thousand rifles a month. All the parts of the Springfield rifle are made by machinery, and each rifle requires five hundred distinct operations before it is completed.

Peculiar Productions. — Nature has been niggardly in her gifts to New England, and it has been said that Massachusetts exports none of her natural productions except her rocks and her ice. Yet the "rocks" are valuable; for the granite of Massachusetts and New Hampshire, the lime and slate of Maine, the marbles of Vermont, and the brownstone of Connecticut, are important exports. In the winter, ice is cut and stored in immense quantities, especially in Maine and Massachusetts, and is shipped to the East Indies, the West Indies, and other iceless climes.

The vast forests of pine and hemlock in northern New England have been another natural source of wealth. The lumbermen go into the woods in the fall, and remain all winter, felling the trees, and cutting them into logs. These they draw over the snow-covered ground to some stream; and when it thaws in spring, the logs float down to the saw-mills.

Vermont has a peculiar gift of nature in the sugar-maple, a deciduous tree which yields a sap that is boiled into sugar. Several thousand tons of maple-sugar are made in that state every year.





II.

GENERAL DESCRIPTION.

1. **Names and Area.**—The Middle States are New York, New Jersey, Pennsylvania, Delaware, and Maryland. In this section also is the District of Columbia. The area of the Middle States is about twice that of New England.

2. **Surface.**—The greater part of this section is in the Atlantic Highland, but the western part is in the Central Plain; and hence it includes three natural divisions: the Atlantic Plain, rising westward through foot-hills into the ridges of the Appalachian system, west of which is a low plateau descending to Lakes Ontario and Erie and the Ohio River.

The mountains are chains and ridges of the Appalachian system, the principal being the Adirondack and Catskill Mountains in New York, and the Blue, Tuscarora, and Alleghany Mountains in Pennsylvania.

I. The Appalachian system is intersected by a low depression formed by the valley of the Hudson and Mohawk rivers: this separates the Adirondack Mountains from the rest of the system, and forms a natural highway of communication between the Atlantic seaboard and the Mississippi Valley. The Erie Canal, which follows the valley of the Mohawk, connects the waters of Lake Erie at Buffalo with the Hudson at Albany.

II. Mount Marcy (5,402 feet in height), in the Adirondack Mountains, is the loftiest summit of the Appalachian system in the Middle States. The wilderness of the Adirondacks is still the haunt of bears, deer, and other wild animals.

3. **The Atlantic Plain** is very narrow in New York, but it increases in width to over 100 miles in southern Pennsylvania.

4. **Rivers.**—The rivers of the Middle States belong to the Atlantic system, except those of the western slope, which belong to the Mississippi and St. Lawrence systems.

5. **The Climate** presents marked contrasts, the winters being long and severe in northern New York, and comparatively short and mild in southern Maryland.

6. **Productions and Pursuits.**—The leading occupations are manufacturing and commerce; but agriculture, grazing, and mining are all great and important industries.

Manufactures.—Manufacturing in the Middle States is facilitated by abundant water-power and by the coal of Pennsylvania and Maryland. The principal manufactures are cotton and woolen goods, iron and steel, boots and shoes, flour and meal, and spirituous and malt liquors.

Commerce.—This section has a vast foreign and domestic commerce, which is favored by its central position, its fine harbors, and its extensive system of lake, river, canal, and railroad communication.

Agriculture.—The climate and soil are favorable to agriculture, and all the grains except rice are largely raised. The crop of hay and potatoes is immense; the raising of fruit and vegetables for the markets of the great seaboard cities, and stock-raising and dairying, are extensively carried on.

Minerals.—New York yields salt; New Jersey, iron and zinc; Pennsylvania, coal and iron; and Maryland, coal. The petroleum of Pennsylvania is a product of great value, and is largely exported.

III.

THE STATES.

REFERENCE TABLE.

STATES.	Area in Sq. Miles.	Population in 1890.	STATES.	Area in Sq. Miles.	Population in 1890.
New York . . .	49,170	5,997,853	Delaware . . .	2,050	168,493
New Jersey . . .	7,815	1,444,933	Maryland . . .	12,210	1,042,390
Pennsylvania . . .	45,215	5,258,014	[Dist. of Columbia.]	70	230,392



COMMERCE IN THE MIDDLE STATES.

1. **New York** is the foremost of the states in population, wealth, and commerce, and hence is often called the "Empire State."

New York has nearly one-tenth of the population, and one-seventh of the wealth, of the United States.

2. **Chief Cities.**—New York City, the largest city in the United States, and, next to London, the largest in the world, is the commercial, manufacturing, and financial metropolis of the Western Continent. It comprises five boroughs; namely, Manhattan, Brooklyn, the Bronx, Queens, and Richmond, all of which have railway, bridge, and ferry connections.

New York City and Jersey City (N. J.), though separate cities, yet form one compact business center, with a population of about 3,500,000.

Among the other important cities of New York the five largest are Buffalo, on Lake Erie, noted for its manufactures, and its lake and canal trade; Rochester, on the upper falls of Genesee River, noted for its water-power and its large manufacturing and milling interests; Albany, the capital, on the Hudson; Troy, on the left bank of the Hudson, noted for its iron and steel-works; and Syracuse, for its varied manufactures and its immense salt-works.

3. **New Jersey** is principally engaged in raising vegetables and fruit for the markets of New York City on the north, and Philadelphia on the south. In the northern part of the state are many large manufacturing cities, and the mining of iron and zinc are important industries.

4. **Chief Cities.**—Newark, the largest city, is noted for its manufacture of India-rubber and leather goods. Jersey City, on the west shore of New York Bay, is an important



MILITARY ACADEMY—WEST POINT



SHAD-FISHING



SALTWELLS SYRACUSE



NAVAL SCHOOL—ANNAPOLIS



FOWLING IN CHESAPEAKE BAY

manufacturing and shipping place. Trenton, the capital, is noted for its iron-works, rolling-mills, and porcelain-kilns.

5. **Pennsylvania** is the greatest mining state in the Union, and rivals New York in agriculture, manufacturing, and commerce.

In coal, the most useful mineral, and petroleum, Pennsylvania is one of the richest regions in the world. The annual value of the mineral products is about \$150,000,000, or about one-fourth the total value of all the mineral products of the United States.

6. **Chief Cities.**—Philadelphia is the third city of the United States in population and second in value of manufactures. Pittsburg, in the bituminous coal region, is noted for its iron-works, rolling-mills, and foundries. Allegheny, the third in size, is near Pittsburg, and carries on the same industries. Scranton, Wilkesbarre, Shenandoah, and Pottsville are in the anthracite coal field. Harrisburg is the capital; Erie is an important lake port. Reading and Lancaster have a large trade.

7. **Delaware** is principally engaged in fruit-growing and market-gardening; but it has also considerable manufactures.

8. **Chief Cities.**—Wilmington, the only large city in the state, builds iron steamships, and manufactures railroad-cars, carriages, paper, and gunpowder. Dover is the capital.

9. **Maryland** is a fine agricultural state, and exports wheat, flour, and tobacco; in the mountainous western region are rich mines of coal and iron.

10. **Chief Cities.**—Baltimore, the eastern terminus of the Baltimore and Ohio Railroad, which connects it with the cities of the Mississippi Valley, is the largest city, and ranks as the fifth seaport of the United States. Annapolis, the capital, is the seat of the United States Naval Academy.

11. **The District of Columbia** is an irregular area of 70 square miles on the Maryland side of the Potomac. It contains Washington, the capital of the United States.

SUPPLEMENTARY NOTES.

History.—The name "Middle States" was originally given to those states situated between New England and the Southern States, at the time our country was confined to the narrow strip of the Atlantic seaboard.

The settlement of this section was very different from the settlement of New England. The New England colonies were all settled by men of the same nationality (English), and of the same sect (the Puritan); but the Middle Colonies were established by people of very diverse origin and creed,—by Hollanders, Swedes, and Germans, Scottish Presbyterians, English Episcopalians, English Friends, English Catholics, and French Huguenots.

The territory which is now the state of New York was discovered in 1609, by Henry Hudson (an Englishman in the employment of the Dutch East India Company) on the Hudson River side, and by Champlain (the French governor of Canada) on the Lake Champlain side. The first settlement was made by some Dutch (Hollandish) traders, on Manhattan (or New York) Island, which they bought from the Indians for sixty guilders (\$25). The first settlement in New Jersey was made in 1620, at Bergen. The first English settlement in Pennsylvania was made in 1681, by a party of Quakers sent out by William Penn. The first settlement of Delaware was made in 1638, by a company of Swedes and Finns con-

ducted by Peter Minuit, who had been Dutch governor of New Netherland (New York). The first settlement of Maryland was made in 1634, by a colony of English Catholics, then persecuted in England.

Names.—The name New York was given to New Netherland after it was taken from the Dutch by the English in 1664. It was so named in honor of the Duke of York and Albany (afterwards the English King James II.), to whom his brother King Charles II. granted the territory. The name New Jersey was given by Sir George Carteret, to whom (with Lord Berkeley) the province was ceded by Charles II., and who had been governor of the little island of *Jersey*, England. The name Pennsylvania signifies *Penn's Woodland* (Latin *sylva*, a wood), in honor of William Penn, to whom the province was granted by the English government in payment of a debt due his father, Admiral Penn. Delaware takes its name from Lord De la Ware, governor of Virginia, who in 1610 entered the bay bearing his name. The name Maryland commemorates the fact that in the charter of King Charles I., assigning the territory to Lord Baltimore, the region was called *Terra Maria* (Mary's Land), in honor of Queen Henrietta Maria, wife of Charles I. As New York is called the "Empire State," so Pennsylvania is called the "Keystone State," and New Jersey, the "Garden State."

SOUTHERN STATES: EASTERN DIVISION.

I.

QUESTIONS ON THE MAP.

I. QUESTIONS BY STATES.

The Section. — How many and what states in this section? Which states border on the Atlantic Ocean? Which states are on the Gulf of Mexico? Which states are bordered by the Mississippi River? By the Ohio? What mountain-system extends through this section? In which state does it terminate? Through what states does the Blue Ridge extend? What states are partly separated by the Alleghany range? By the Cumberland range? By the Iron or Smoky Mountains? To what three systems do the rivers of this section belong? *Ans.* To the Atlantic, the Gulf, and the Mississippi systems. Name the largest rivers flowing into the Atlantic Ocean. Into the Gulf of Mexico. What are the chief tributaries of the Mississippi in or bordering this section?

Virginia. — What bay extends into this state? What is the tongue of land east of Chesapeake Bay called? *Ans.* The Eastern Shore. Name four rivers flowing into Chesapeake Bay. What two capes at its entrance? What mountains extend through Virginia? What ranges form partial boundaries? What tributary of the Potomac flows between the Blue Ridge and Alleghany Mountains? What two seaports near the mouth of the James? What city on the James is the capital? What city on the Appomattox?

West Virginia. — What rivers form partial boundaries of West Virginia? What mountains form a partial boundary? Name the principal tributaries of the Ohio in or bordering this state. What city is the capital? On what river is it? What large cities on the Ohio?

North Carolina. — What two large sounds on the coast of North Carolina? What are the principal rivers flowing into these sounds? Name three capes on this coast. What mountains extend through the state? What mountains on the west-

ern boundary? What spur connects the Blue Ridge with the Smoky Mountains? What peak in the Black Mountains? In what direction, and into what, do most of the rivers flow? Name two seaports. What city on Cape Fear River? What city is the capital?

South Carolina. — What mountains form part of the northern boundary? What river forms the south-western boundary? What is the principal river of this state? What two branches form it? On what branch is the capital? Name the principal seaport.

Georgia. — What river forms the north-eastern boundary of Georgia? What river forms a part of the western boundary? Name the other two chief rivers of Georgia. What mountains in the northern part? What is the capital? What is the principal seaport?

Florida. — What natural division of land is Florida? Between what waters does it project? What capes on the coast? What two bays on the Gulf coast? What islands south of Florida? What great swamp in the southern part? What cities on the coast? What city is the capital? What

Kentucky. — What natural boundaries has Kentucky on the north and west? What are the principal tributaries of the Ohio River in this state? What mountains in the south-eastern part? What city is the capital? What important cities on the Ohio? What places on the Mississippi?

Tennessee. — What two mountain-ranges traverse Tennessee? Which forms a natural boundary? What natural boundary has the state on the west? What are the two principal rivers in this state? What city is the capital? What cities in East Tennessee? What city on the Mississippi?

Alabama. — What is the extent of Gulf coast in Alabama? What bay on the coast? What river flows into it? What are the two chief branches of Mobile River? What river forms a partial boundary? What part of the state is mountainous? To what system do these mountains belong? Where is the capital? What seaport has this state?

II.

GENERAL DESCRIPTION.

1. **Position and Area.** — The Eastern Division of the Southern States is south of the Middle States and the Ohio River, and east of the Mississippi River. The area of these states is twice that of New England and the Middle States together.

2. **Surface.** — This section belongs to the Atlantic Highland and Plain, and to the Central Plain, or Mississippi Valley.

Mississippi. — What natural boundary has Mississippi on the west? What sound south? What are the principal tributaries of the Mississippi in this state? What river flows into Mississippi Sound? On what river is the capital? What two cities on the Mississippi?

II. REVIEW QUESTIONS.

States. — *How bounded?* *What is the capital?* Virginia? West Virginia? North Carolina? South Carolina? Georgia? Florida? Kentucky? Tennessee? Alabama? Mississippi?

Bays. — *Where is it?*

Chesapeake? Albemarle Sound? Pamlico Sound? Tampa? Apalachee? Mobile? Mississippi Sound?

Capes. — *From what coast does it project?*

Charles? Henry? Hatteras? Lookout? Fear? Canaveral? Sable? St. Blas?

Mountains. — *If there are they?*

Cumberland? Smoky? Alleghany? Blue Ridge? Peaks of Otter?

Rivers. — *Where does it rise? In what direction, through what states, and into what body of water, does it flow?*

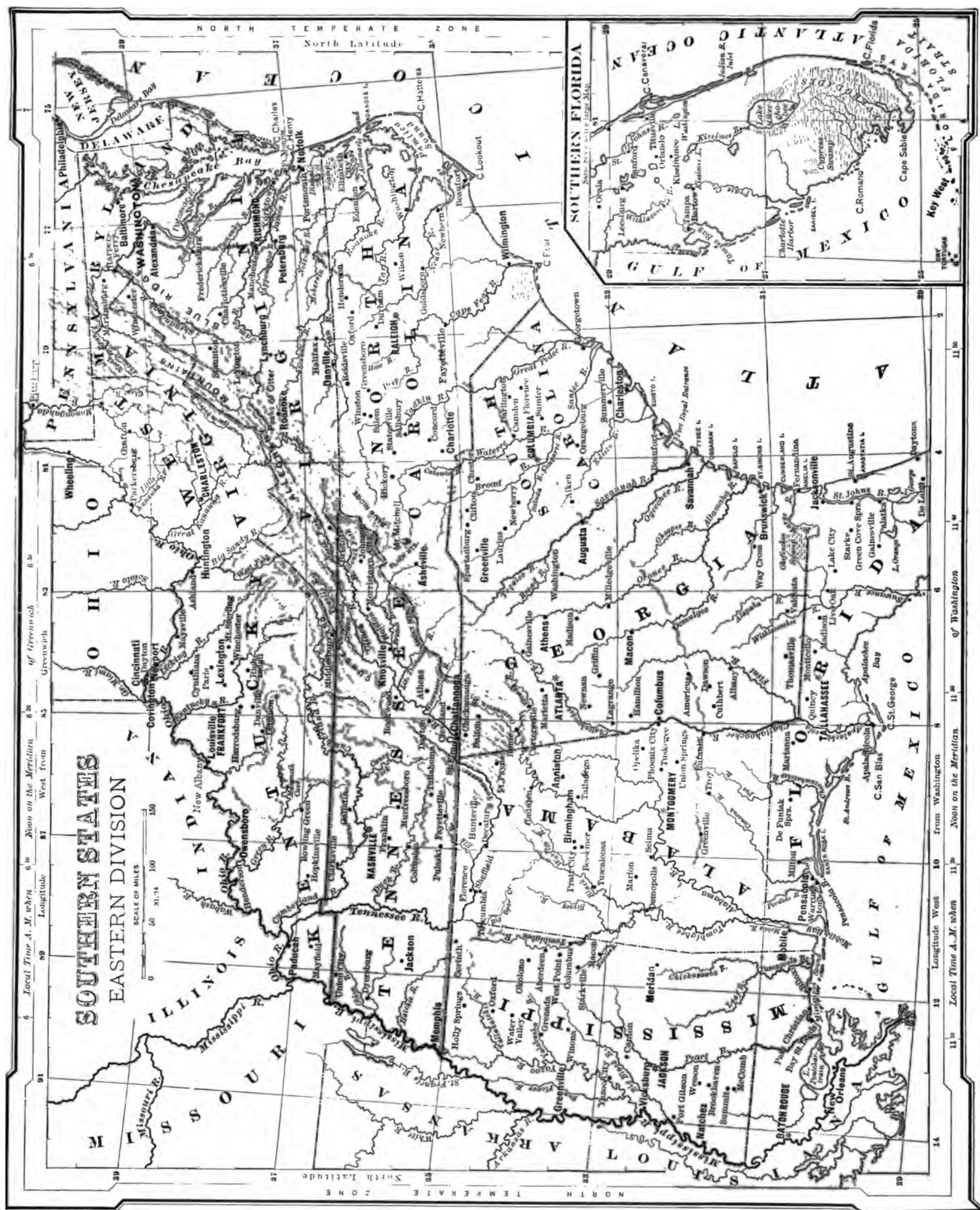
Potomac? Rappahannock? York? James? Great Kanawha? Big Sandy? Shenandoah? Roanoke? Neuse? Cape Fear? Pedee? Santee? Savannah? Altamaha? St. Johns? Chattahoochee? Flint? Cumberland? Tennessee? Pearl? Mobile? Alabama?

Cities. — *In what part of what state is it? How situated?* Richmond? Petersburg? Norfolk? Alexandria? Lynchburg? Raleigh? Wilmington? Asheville? Wheeling? Huntington? Charleston? Columbia? Savannah? Atlanta? Augusta? Columbus (Ga.)? Tallahassee? Jacksonville? Key West? Pensacola? Owensboro? Frankfort? Louisville? Covington? Newport? Nashville? Memphis? Chattanooga? Knoxville? Montgomery? Mobile? Anniston? Birmingham? Jackson (Miss.)? Vicksburg? Meridian? Natchez?

islands. Between these are navigable inlets; but, as they are mostly obstructed with sand-bars, there are not many southern harbors into which the largest vessels can enter.

III. The coast region and the Pine Barrens form the tide-water section of the South Atlantic states. On or near the "Ridge" which separates this section from the upland region are the most important inland cities of these states,—as Richmond, Petersburg, Raleigh, Columbia, Augusta, Milledgeville, and Montgomery.

4. The Appalachian mountain-system extends in a south-westerly direction from Virginia into central Alabama.



5. **Central Plain.**—The Central Plain, or Mississippi Valley, includes the greater part of West Virginia, Kentucky, Tennessee, Alabama, and the whole of Mississippi. The general slope is toward the Gulf of Mexico.

6. **Climate.**—The northern part of the south-eastern states has a warm-temperate, and the southern a semi-tropical, climate. The summers are long and hot, and in the far South there is scarcely any winter. Abundant rain, from the moist winds of the Atlantic Ocean and the Gulf of Mexico, falls in this section.

7. **Vegetation.**—The magnolias, the palmetto, and the cypress, with pendent moss, characterize the coast belt; farther inland is the zone of the pine; this is succeeded by forests of oak and the deciduous trees. In the southern part of the coast region are forests of live-oak, the most valuable timber for ship-building.

8. **Rivers.**—The rivers of this section belong to three systems,—the Atlantic system, the Mississippi system, and the Gulf system.

9. **Natural Advantages.**—The soil is admirably adapted for the growth of cotton and the cereals, and, in the southern part, of semi-tropical fruits. The forests supply ship-timber and naval stores. Coal and iron, salt, marble, and gypsum, are among the mineral riches of this section.

10. **Agriculture.**—The fertile soil, abundant moisture, and warm temperature, of this section, give rise to its great industry,—agriculture. The chief products are cotton, tobacco, corn, rice, and sweet-potatoes.

Cotton: Texas, Georgia, and Mississippi. *Tobacco:* Kentucky, Virginia, Ohio, and North Carolina. *Corn:* Iowa, Illinois, Kansas, and Nebraska. *Rice:* Louisiana, South Carolina, Georgia, and North Carolina. *Sweet-potatoes:* North Carolina, Georgia, Alabama, and Mississippi.

11. **Other industries** pursued in the Southern States are manufacturing, mining, lumbering, and commerce.

Manufactures.—The principal manufacturing establishments are iron-works, rolling-mills, cotton and woolen mills, hemp-factories, lumber-mills, and tobacco-factories.

Mining.—Coal and iron abound in Virginia, West Virginia, Tennessee, and Alabama, and the mining interest is developing rapidly.

Lumbering is largely carried on in the pine-forests of the coast region. From the long-leaved pitch-pine (a different tree from the northern pine) are obtained naval stores; that is, pitch, tar, and turpentine.

Commerce.—The chief exports are cotton, tobacco, rice, lumber, and naval stores, shipped from Norfolk, Charleston, Savannah, and Mobile, which are the principal seaports.

III.

THE STATES.

STATES.	Area in Sq. Miles.	Population in 1890.	STATES.	Area in Sq. Miles.	Population in 1890.
Virginia . . .	42,450	1,655,980	Florida . . .	58,680	391,422
West Virginia .	24,780	762,794	Kentucky . . .	40,400	1,858,635
North Carolina .	52,250	1,617,947	Tennessee . . .	42,050	1,767,518
South Carolina .	30,570	1,151,149	Alabama . . .	52,250	1,513,017
Georgia . . .	59,475	1,837,353	Mississippi . .	46,810	1,289,600

1. **Virginia** is principally engaged in agriculture, the leading staples being tobacco, wheat, and corn. Secondary interests are mining, market-gardening, and oystering.

2. **Chief Cities.**—Richmond, at the head of tide-water on the James River, is the capital and largest city, and is noted for its tobacco-factories, flour-mills, and iron-works. Norfolk is the principal seaport of Virginia. Petersburg, at the head of tide-water on the Appomattox, has a large trade in grain and tobacco.

3. **West Virginia** is rich in coal, iron, salt, and petroleum; and the development of these resources, together with agriculture, constitutes her principal industries.

4. **Chief Cities.**—Wheeling, on the Ohio River, is the largest city, and contains numerous iron-works. Charleston is the capital.

Huntington and Parkersburg are next in importance.

5. **North Carolina** is chiefly engaged in raising tobacco, cotton, corn, and sweet-potatoes. Lumbering, and the production of pitch, tar, turpentine, and rosin are important industries.

6. **Chief Cities.**—Wilmington is the largest city and chief seaport. Raleigh is the capital.

7. **South Carolina** is noted for the production of cotton of the finest quality, and of rice, in the growing of which she has been a leading state.

8. **Chief Cities.**—Charleston, the largest city, is a leading cotton port. Columbia is the capital.

9. **Georgia** ranks first of the Southern States in the manufacture of cotton goods and naval stores, second in the production of cotton and sweet-potatoes, and in the total value of her forest products.

10. **Chief Cities.**—Savannah is the principal seaport. Atlanta, the capital, is the largest city, and a railroad and manufacturing center. Savannah is an important seaport. Augusta, Macon, and Columbus are cotton-manufacturing cities.



PICKING COTTON.

11. **Florida** is noted for its production of oranges, lemons, figs, and other semi-tropical fruits.

12. **Chief Cities.** — Jacksonville and Key West are the largest cities. Pensacola is an important sea-port. Tallahassee is the capital.

13. **Kentucky** ranks as the first State of this division in population and in the production of tobacco and hemp.

14. **Chief Cities.** — Louisville, on the Ohio River, is the largest city and the commercial center of the state; Covington and Newport, connected by bridges with Cincinnati, are manufacturing points. Frankfort is the capital.

15. **Tennessee** is divided into East Tennessee, Middle Tennessee, and West Tennessee. The leading occupations are mining and grazing in the eastern, the raising of cotton, corn, and wheat in the middle, and cotton and tobacco growing in the western section.

16. **Chief Cities.** — Memphis, on the Mississippi, is the principal cotton and grain mart between St. Louis and New Orleans. Nashville, the capital, is the largest city, and the business center of Middle Tennessee. Knoxville and Chattanooga are the chief cities of East Tennessee.

17. **Alabama** is principally engaged in raising cotton and corn; mining coal and iron ore; and manufacturing coke and iron.

18. **Chief Cities.** — Mobile, the largest city, is a leading cotton port. Birmingham is the important center of the coal and iron region. Montgomery is the capital.

19. **Mississippi** is distinguished as one of the leading states in the culture of cotton. About one million bales of this staple are produced in the state every year.

20. **Chief Cities.** — Vicksburg on the Mississippi River, and Natchez, a river town one hundred miles farther south, are the most important places. Jackson is the capital. Meridian is an important business center.

SUPPLEMENTARY NOTES.

History. — Virginia was the name given by the English to nearly the whole Atlantic coast, after the explorations and attempted settlements made under the patronage of Sir Walter Raleigh in 1584-87. The first settlement within the limits of the state was made by an English colony at Jamestown, in 1607. West Virginia formed a part of the State of Virginia till 1862, when it was organized as a separate state. The first settlements in North Carolina were made between 1640 and 1650, by emigrants from Virginia. The first settlement in South Carolina was made by English settlers in 1670, at Old Charleston. The Carolinas, North and South, formed one province till 1729.

The first settlement in Georgia was made in 1733, at Savannah, by an English colony led by Gen. James Oglethorpe.

The first European settlement in Florida was made on the River St. John's in 1564, by a colony of French Huguenots; but the Spaniards, claiming the whole country, massacred the settlers, and in 1565 founded St. Augustine, the oldest town within the limits of the United States. In 1819 Florida was purchased from Spain by the United States for five million dollars.

Kentucky is the oldest of the states west of the Appalachian Mountains. The way for the settlement of both Kentucky and Tennessee was prepared by the explorations of the bold North Carolina hunter, Daniel Boone. In 1775 a lasting settlement in Kentucky was made by Boone and some friends. Kentucky came into the Union as a state in 1792.

The first settlement in Tennessee (originally a part of North Carolina) was made in 1778 by a party of refugees from British tyranny in Carolina. Tennessee entered the Union in 1796.

The territory now occupied by Alabama and Mississippi belonged to the state of Georgia, and by that state was in 1800 ceded to the United States. The region was then organized as the "Territory of Mississippi." In 1817 the state of Mississippi was carved out of this territory, and in 1819 the state of Alabama.

Names. — Virginia (a name which, as before said, was at first given to the whole Atlantic coast claimed by the English) was so called in honor of Queen Elizabeth, "the Virgin Queen." West Virginia was so called when formed into a state in 1862. The Carolinas were so named in honor of the English king Charles II. (Latin *Carolus*). The name Georgia was given in honor of the English king George II., who granted the territory to Oglethorpe and other "trustees." Florida was so named by the Spanish explorer, Ponce de Leon, because the region was discovered on Easter Sunday, called in Spanish *pascua florida*. Kentucky is a native Indian name signifying "the dark and bloody ground," because in aboriginal times it was the battlefield of the northern and southern Indians. Tennessee is named after the river of the same name, signifying "the river of the big bend." (Notice on the map the great curve made by the



Tennessee River.) Alabama is called after the river of the same name, signifying "here we rest." Mississippi is named after the Mississippi, signifying "the father of waters."

Scenery and Curiosities.—The passage of the Potomac at Harper's Ferry, Va., where the Shenandoah and Potomac Rivers force their united streams through the Blue Ridge, was called by Thomas Jefferson "one of the most stupendous scenes in nature, and well worth a voyage across the Atlantic to witness." In Virginia, also, is the famous Natural Bridge over Cedar Creek. It is sixty feet long, and spans a chasm two hundred feet in depth. On the abutments of the bridge there are many names carved in the rock, of persons who climbed as high as they dared on the precipice. Highest of all, for nearly three-quarters of a century, was that of George Washington, who, when a youth, ascended to a point never before reached. However, in 1818 this feat was surpassed by a student of Washington College, named James Piper, who actually climbed from the foot to the top of the rock. In Georgia there are many interesting waterfalls, among which the most famous are the falls of Tallulah, 536 feet high.

One of the greatest natural curiosities in the world is the Mammoth Cave of Kentucky, discovered in 1809. It is the largest cave known. It extends nine miles, and contains a succession of marvelous chambers, grottoes, domes, bottomless pits, lakes, rivers, and cataracts. The vaulted roofs are studded with stalactites of gigantic size, and in the lakes are found eyeless fish and crawfish.

The southern part of the peninsula of Florida is of coral formation; and the Florida Keys—so called from the Spanish word *cayos*, "rocky islets"—are coral islands, formed during unnumbered ages by the stony secretions of an animal called the coral polyp. Key West, the most important of the keys, has for generations the haunt of pirates and smugglers, but is now an important naval station, and the dwelling-place of a band of "wreckers," whose business it is to assist vessels in distress. The great swamps are a peculiar feature of the coast of the Southern States. The most noted is the Great Dismal Swamp of Virginia and North Carolina, seventy-five miles in length by twenty-five miles in width. The soil is saturated with water, and the surface is dotted in many places with lakes and standing pools; but the swamp is for the most part covered with a dense growth of cypress, juniper, gum, and cedar trees. Among other extensive morasses are Alligator Swamp of North Carolina, Okefinokee Swamp of Georgia, and the Everglades of Florida. The last-named is an immense grassy swamp overgrown with cypress and water-oaks.

Southern Products.—The cultivation of tobacco, a plant indigenous to America, first began in Virginia about 1616, soon after the planting of the first English settlement at Jamestown. In the early days, tobacco was not only the principal article of export from Virginia, but was the chief currency of the colony.

Cotton began to be largely cultivated in the Southern States at the commencement of the present century. The rapid growth in the culture of this plant was largely owing to the

invention of the cotton-gin by Eli Whitney, and the invention of new machinery for the manufacture of cotton into cloth. The demand for hands to cultivate and pick cotton on the great plantations was the principal cause of the extension of slavery, which was abolished during the war of secession.

Rice is not a grain indigenous to this country. Its culture in the South began about the close of the seventeenth century. The captain of a ship from Madagascar brought a bag of seed-rice to Charleston, and gave it to the governor, who distributed it among his friends. They planted the seed; it increased greatly, and so rice became a main staple of South Carolina.

North Carolina, Georgia, and Florida have in their forests an important source of wealth. From the yellow pitch-pine are obtained turpentine, tar, and pitch,—articles so important in the arts and manufactures. Turpentine is the sap or juice of the pine-tree, and tar is obtained by the combustion of pine billets; pitch is the result of boiling down tar; and rosin, of distilling turpentine. Many of the pines are very tall and straight, and these are greatly valued for masts and spars; while the live-oak, the hardest and most durable of woods, furnishes the finest material for ship-building.

Last of all to be mentioned is that useful article, the sponge. Sponges were long regarded as plants; but naturalists now agree that they belong to the animal kingdom. The sponge is found in great quantities, and of an excellent quality, off the coast of Florida; and the sponge fisheries are a large and growing branch of industry in that part of the country.

SOUTHERN STATES: WESTERN DIVISION.

QUESTIONS ON THE MAP.

I. QUESTIONS BY STATES.

The Section.—What three states and two territories in this section? What natural boundaries on the east? On the south? **Arkansas.**—What natural boundary has Arkansas on the east? What ridge of the Ozark Mountains extends into the state? What mountains south of Pea Ridge? What river crosses the center of the state? Of what is it a tributary? What other large tributary of the Mississippi crosses the south-western part? What is the capital? On what river are most of the cities or towns? Name them. What places are on the Mississippi River?

Louisiana.—What three natural boundaries has Louisiana on the east? What natural boundary on the south? What river crosses the state? Where does it rise? Of what is it a tributary? What boundary river on the west? What four

lakes in Louisiana? What sound east? What bay south? What is the capital? What city on the Mississippi north-west of New Orleans? What city on Red River?

Texas.—What natural boundary on the south-east? Name two principal bays. What natural boundary on the south-west? What country on the south-west? What mountains in the west? What plain? What seven large rivers between the Sabine and the Rio Grande? In which half of the state are all the cities and towns? What is the capital? The principal seaport? What city north-west of Galveston? West of Galveston? On Trinity River? On Brazos River? **Oklahoma Territory.**—What six rivers water this territory? In what direction do they flow? What is the capital? Name some other towns.

Indian Territory.—What river crosses Indian Territory? Name its principal tributaries in this territory. What is the chief town of the territory?

II. REVIEW QUESTIONS.

States.—How bounded? What is the capital?

Arkansas? Louisiana? Texas? Oklahoma? Indian Territory?

Bays and Sounds.—Where is it?

Breton? Atchafalaya? Galveston? Matagorda?

Mountains.—Where are they?

Guadalupe? Pea Ridge? Boston?

Rivers.—Where does it rise? In what direction, through what states, and into what body of water, does it flow?

Arkansas? Red? Sabine? Trinity? Brazos? Colorado?

Rio Grande?

Lakes.—Where situated?

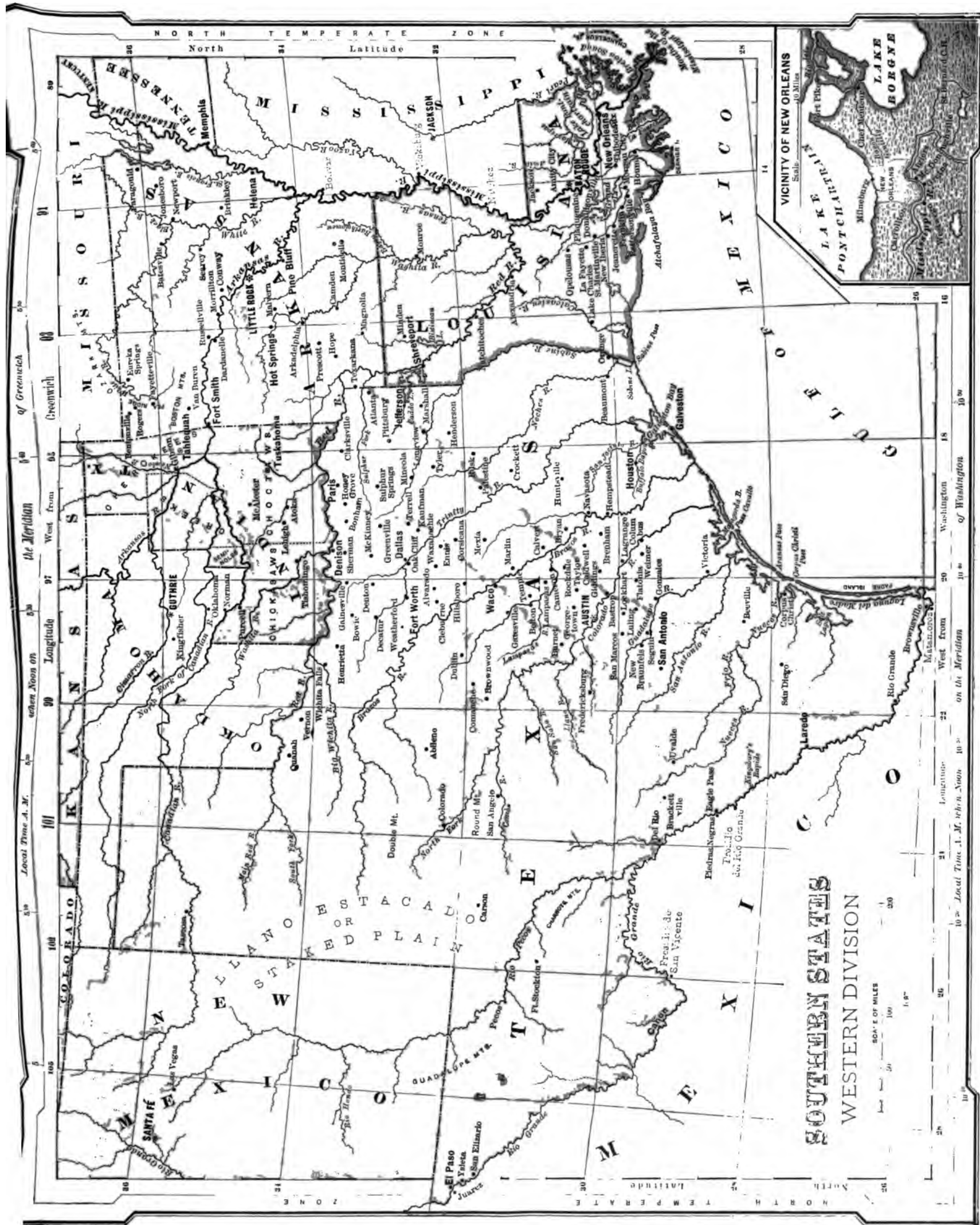
Caddo? Pontchartrain? Borgne? Grand?

Cities.—In what part of what state is it? How situated?

Little Rock? New Orleans? Tahlequah? Austin? Fort

Smith? Baton Rouge? Galveston? Shreveport? Houston?

Fort Worth?



II. GENERAL DESCRIPTION.



SUGAR-PLANTATION.

1. **Area.**—This section, which includes Louisiana, Arkansas, Texas, Okla-

homa, and Indian Territory, has an area more than double that of the New England and the Middle States.

2. **Surface.**—The south-eastern portion is in the low plain of the Mississippi Valley, whence the surface rises westward into the Plains, which occupy a large part of this section.

Along the coast are extensive swamps and marshes. North-western Texas is a table-land, rising to a height of 4,000 feet, and forming the eastern base of the Rocky Mountains, some outlying ridges of which extend into this state.

3. **Drainage.**—The Mississippi and its tributaries form the principal drainage of the eastern portion. Most of the rivers of Texas rise in the western plateau, and flow south-east into the Gulf of Mexico.

The southern part of Louisiana is almost on the river-level, and is liable to inundation in the spring, when the Mississippi is swollen. To confine it within its banks, *levees*, which are broad walls of earth, have been constructed.

4. **Climate.**—The climate of this section is warm, and along the gulf-coast semi-tropical. The eastern part has abundant rains; the western part is nearly rainless.

5. **Occupations.**—The principal occupation is agriculture, the chief staples being corn, cotton, sugar, rice, and tobacco. The broad prairies of Texas are the grazing-grounds of millions of cattle.



LAKE PONTCHARTRAIN.

III. THE STATES.

REFERENCE TABLE.

STATES.	Area in Sq. Miles.	Population in 1890.	STATES.	Area in Sq. Miles.	Population in 1890.
Louisiana . . .	48,720	1,118,587	Oklahoma Ter. .	39,030	61,834
Arkansas . . .	53,850	1,128,179	Indian Territory	31,400	186,490
Texas	265,780	2,235,523			

1. **Louisiana** is an important state on account of its valuable staple products, and its commanding commercial position. The principal occupations are agriculture and commerce.

I. The staple products are the sugar-cane, cotton, and rice. Louisiana ranks first in the United States in the production of sugar and rice.

II. The commercial facilities of the state arise from its situation at the lower part of the Mississippi Valley, and on the coast of the Gulf of Mexico. This gives it the control both of the foreign and the domestic trade of this rich section.

2. **Chief Cities.**—New Orleans is the largest city in the Gulf States, and the greatest cotton-market in the world. Shreveport and Baton Rouge, the capital, are next in size.

3. **Arkansas.**—The staple products of this state are cotton and corn. Stock-raising is extensive, and the mineral wealth is great.

4. **Cities.**—Little Rock is the capital and largest city. Other important places are Fort Smith, Pine Bluff, and Hot Springs.



CATTLE RANCHING IN TEXAS.

5. **Texas.**—Texas, the largest state in the Union, is engaged in stock-raising and agriculture. The chief staples are cotton, corn, cattle, and wool.

6. **Chief Cities.**—Galveston has an extensive cotton trade, and is the port through which nearly all the exports and imports of the state pass. Dallas, San Antonio, and Houston are flourishing cities and important railroad centers, with a large internal trade. Austin is the capital.

7. **Indian Territory.**—Indian Territory is a region set apart by Congress for the home of various peaceable tribes of Indians. Tahlequah is the chief town.

8. **Oklahoma Territory.**—Stock-raising and farming are the chief pursuits. Guthrie is the capital and the largest town. Oklahoma and Kingfisher are thriving places.

SUPPLEMENTARY NOTES.

History.—"Louisiana," in the last century, was the name applied to an extensive territory including the whole country westward from the Mississippi not occupied by Spain, and northward to the southern boundary of British America,—a vast region then in possession of France. In the year 1803, during the administration of Jefferson, this domain was purchased from France for fifteen millions of dollars. The *State* of Louisiana was organized in 1812, and all the rest of Louisiana took the name of "Missouri."

Arkansas was a portion of the territory of Louisiana. In 1819 it was set off as a distinct territory, and in 1836 it was admitted as a state.

Texas, originally a part of the Spanish-American Possessions, became a province of Mexico in 1821. A large American immigration then took place; a few years later the people declared their independence, and in 1836 Texas became an independent republic. Subsequently, in 1845, Texas, on application, was admitted into the Union.

Indian Territory was originally a part of the Louisiana purchase, and embraced the whole territory of Missouri. It has been reduced to its present limits by the successive formation of states and territories.

An unoccupied portion of Indian Territory was thrown open to public settlement in 1889, and, with extended boundaries, was organized as the Territory of Oklahoma in 1890.

Names.—Louisiana was so named after the French king Louis XIV. The state of Arkansas is called after the river of the same name. Texas is called after an Indian tribe of that name. Indian Territory is so called because tribes of Indians are settled there. Oklahoma is a Chickasaw word meaning "Beautiful country."

Texas.—From its size alone Texas is noteworthy above all the other states of the Union. It extends through more than ten degrees of latitude, and twelve degrees of longitude, exceeding in area either France or the German Empire. It has the finest facilities for agriculture, producing all the cereals, together with cotton, sugar, tobacco, indigo, and semi-tropical fruits. It raises more beef-cattle than any other state, having, by the census of 1890, over six million head. Immense stock-ranches,

having herds of several thousand cattle and horses, are common in this state. Great attention is given to sheep-raising. There is an abundance of most valuable timber, and great deposits of coal, iron, salt, and other useful minerals. These attractions draw a superior class of emigrants from other states, as also from Germany and other European countries.



NOMADIC INDIANS.

Indian Territory.—Indian Territory is divided into various reservations, the most important of which are (see map, p. 43) those of the Cherokees, Chickasaws, Choctaws, Creeks, and Seminoles. These tribes have at various periods been removed from different parts of the Union to their present locations in Indian Territory. The Indian population (about 51,000) is nearly equally divided between those that are settled on the reservations, or at the various agencies. It has been the aim of the United States to settle the various tribes upon separate reservations, where they may be free from the encroachments of the whites, and under the general superintendence and protection of the government. Agents are appointed by the President to represent the United States; but each tribe has its own internal government. Several of the tribes, as the Cherokees, Choctaws, and Creeks, have made considerable progress in civilization: they till the soil, raise cattle and horses, have schools, and have also books and

newspapers printed in their own language.

The American Bison.—The American bison, commonly but wrongly called the buffalo, formerly ranged from northern Texas and Indian Territory northward through Kansas, Nebraska, and the Dakotas. They migrated from north to south, and from south to north, according to the season. When traveling, they moved in vast, solid columns of thousands and tens of thousands. The use of the dressed hides of the bison as robes caused a prodigious slaughter of these animals, so that they rapidly diminished in number. Originally they ranged over the whole of "The Central Plain"; but they are now nearly extinct. The illustration given below represents a scene which only a few years ago was familiar to all who crossed over the plains east of the Rocky Mountains.



HERDS OF BISON.

CENTRAL STATES: EASTERN DIVISION.



VIEW OF CHICAGO.

QUESTIONS ON THE MAP.

I. QUESTIONS BY STATES.

The Section. — How many and what states in this section? What natural boundary has this section on the north? On the south? On the west? What country north-east of this section? *Ans.* The Dominion of Canada. Through how many degrees of latitude and longitude do the states comprising this section extend? What is the greatest length of this section? (Measure on the scale of miles.) When it is noon at Washington, what time is it at Cincinnati and Lansing? At Chicago? At St. Paul? Name ten cities near the fortieth parallel. Which of the Great Lakes is wholly within this section? What mountains in the north-western part? To what systems do all the rivers of this section belong? *Ans.* To the Mississippi and the St. Lawrence basin systems.

Michigan. — Between what lakes is the upper peninsula of Michigan situated? The lower peninsula? What large island in Lake Superior belongs to Michigan? What bay in Lake Superior? What river connects Lake Superior with Lake Huron? What strait connects Lake Michigan with Lake Huron? What two bays in Lake Michigan? In Lake Huron? By what bodies of water is Lake Huron connected with Lake Erie? What mountain-range in the upper peninsula? What rocks? What five rivers flow into Lake Michigan? What two into Lake Huron? Which city is the capital? What two cities near Saginaw Bay? What city on Grand River? On Detroit River? What three important places west of Detroit?

Ohio. — What natural boundary has Ohio on the north? On the south? On which of the Middle States, and on which of the Southern States, does Ohio border? What state on the west? On the north? Into what body of water do the streams in the northern part flow? What are the principal tributaries of the Ohio in this state? Which city is the capital? On what meridian is it? What large place is nearly on the same meridian? What three large cities on Lake Erie? What two cities west of Columbus? What large city in the south-west? What place at the confluence of the Ohio and Muskingum Rivers possesses peculiar historical interest? (See Supplementary Notes, p. 49.)

Indiana. — What natural boundary has Indiana on the north? On the south? What river crosses the state? Of what is it a tributary? What are the principal branches of the Wabash? By what artificial means are the waters of Lake Erie connected with the Mississippi River system?

Which city is the capital? What is the most important city in the north-eastern part of the state? What two cities on the Wabash? What two on the Ohio?

Illinois. — What natural boundary has Illinois on the north-east? On the south? On the west? What partial natural boundary on the east? What five states border on Illinois? How many miles of coast on Lake Michigan has this state? (Measure on the scale of miles.) What are the three principal tributaries of the Mississippi in this state? What water connection is there between Lake Michigan and the Mississippi? What are the principal branches of the Wabash in this state? Which city is the capital? What great city on Lake Michigan? What city south-west of Chicago? What is the largest place in the north-central part of the state? What city on the Illinois River? What city north-west of Peoria? What city south-east of Peoria? What city at the confluence of the Ohio and Mississippi rivers?

Wisconsin. — What natural boundary has Wisconsin on the north-west? On the east? The west? What islands in Lake Superior belong to Wisconsin? What mountains in the northern part? What bay in the eastern part? What large lakes in the eastern part? What are the three principal tributaries of the Mississippi River in this state? Which city is the capital? What city south-east of Madison? What cities on Lake Michigan? On Winnebago Lake? What city on the Mississippi?

II. REVIEW QUESTIONS.

States. — How bounded? What is the capital?

Michigan? Ohio? Indiana? Illinois? Wisconsin?

Bays. — Where is it?

Keweenaw? Whitefish? Thunder? Saginaw? Green?

Rivers. — Where does it rise? In what direction, through what states, and into what body of water, does it flow?

Muskegon? Maumee? Scioto? Great Miami? Wabash? Illinois? Rock? Wisconsin?

Lakes. — Where situated? By what drained?

St. Clair? Horicon? Winnebago? Peoria?

Cities. — In what part of what state? How situated?

Lansing? Columbus? Indianapolis? Springfield? Madison? Detroit? Cincinnati? Chicago? Milwaukee? Grand Rapids? Cleveland? Evansville? Quincy? Racine?



II. DESCRIPTION.



STREET SCENE IN CINCINNATI.

1. **Situation.**—This group of states is situated north of the Ohio River, and east of the Mississippi. It lies wholly in the Central Plain, or Mississippi Valley.

2. **Surface.**—The surface is generally level or rolling prairie-land; but there are two hilly regions,—the one towards the Ohio, the other towards Lake Superior.

The larger part of Ohio consists of a low and broken table-land, forming the western slope and foot-hills of the Appalachian system. The highlands of northern Wisconsin, and the upper peninsula of Michigan, are an extension of the Height of Land. Wisconsin and Michigan possess extensive white-pine forests.

3. **Drainage.**—The rivers in these states belong to the Mississippi and St. Lawrence systems. Four of the five Great Lakes, namely, Erie, Huron, Michigan, and Superior, lie in the northern part of this section.

Lake Superior is six hundred feet above the sea-level, and one thousand feet deep; it has an area of thirty-two thousand square miles, being large enough to take in the whole of the state of Maine or the island of Ireland. Lake Michigan, about twenty feet lower than Lake Superior, is three-fourths as large, and not quite so deep. Lake Huron is two-thirds as large as Lake Superior, and eight hundred and seventy feet deep. Lake Erie is one-third as large as Lake Superior, and is shallow, having an extreme depth of two hundred and ten feet.

4. **Climate.**—The climate is similar to that of the Atlantic States in the same latitude,—the summers are hot, the winters mild in the southern, and cold in the northern part.

5. **Productions and Pursuits.**—The leading pursuits are agriculture and grazing; but manufacturing, mining, and commerce are all great and important industries.

Agriculture.—The broad and fertile prairies are admirably adapted both for tillage and grazing. Of wheat, corn, wool, and live-stock, the quantity produced is greater than in any other part of our country of equal extent.

Manufacturing.—Manufacturing, though in importance secondary to agriculture, is pursued on a great and growing scale. The principal articles produced are flour, agricultural implements, machinery, and cotton and woolen goods.

Mining.—Coal is very widely distributed throughout this section, and in inexhaustible quantities. There are valuable iron ores in Ohio and Michigan. The salt deposits of Michigan are of unsurpassed richness; lead is mined in north-western Illinois and southern Wisconsin; and the Lake Superior copper-mines are among the richest in the world.

Commerce.—The means of communication afforded by nature are the numerous large navigable streams, especially the Mississippi and its tributaries, which flow into the Gulf of Mexico and the Great Lakes, which, with the St. Lawrence, give communication with the Atlantic Ocean. These splendid natural commercial facilities are further increased by a network of railroads built by the enterprise of the Western people. The principal exports are wheat, flour, corn, pork, bacon, beef, cheese, wool, and copper.

III. THE STATES.

REFERENCE TABLE.

STATES.	Area in Sq. Miles.	Population in 1890.	STATES.	Area in Sq. Miles.	Population in 1890.
Ohio	41,060	3,672,316	Wisconsin	56,040	1,686,880
Indiana	36,350	2,192,404	Michigan	58,915	2,093,889
Illinois	56,650	3,826,351			

1. Ohio is one of the wealthiest and most progressive of the Central States, and, in the amount and variety of its manufactures, is the first state west of the Alleghanies.

2. **Chief Cities.**—Cincinnati the metropolis, and the largest city of the Ohio Valley, is a great manufacturing and commercial point. Cleveland and Toledo are important manufacturing centers and lake ports. Columbus is the capital. Dayton and Youngstown are great manufacturing towns.

3. **Indiana.**—The natural advantages of Indiana consist in its fertile soil, its extensive deposits of coal and iron, and the facilities for communication afforded by its rivers. The prosperity of the state is based on its agricultural, mining, and manufacturing interests.



INDIANA SCENES.



WISCONSIN SCENES.



UNIVERSITY OF MICHIGAN AND PICTURED ROCKS.

4. **Chief Cities.** — Indianapolis, the capital and largest city, is the center of numerous railroads, and is an active manufacturing and commercial point. Evansville, Fort Wayne, and Terre Haute, rank next in population, and are important manufacturing and trading cities.

5. **Illinois.** — Illinois is one of the most populous and wealthy of the Central States, leading all others in the value of its agricultural productions, and commanding the trade both of the Mississippi River and of the Great Lakes.

6. **Chief Cities.** — Chicago is the commercial metropolis, and the second city of the country in population. It has an extensive lake commerce, is the center of the railroad system of the surrounding states, and ranks as the greatest wheat, corn, and live-stock market in the Union.

In commercial importance Chicago ranks next to New York. The numerous trunk lines tributary to Chicago, and meeting in that city, make it the most important railroad center in America. Its commerce exceeds \$500,000,000 annually. It is the greatest grain-market in the world. The grain is received and shipped in bulk. It is lifted into elevators from railroad-cars by buckets running on an endless chain, and operated by powerful steam-machinery, and is emptied through spouts into the holds of vessels. There are a large number of these immense elevator-warehouses, the total capacity of all being over 35,000,000 bushels.

Among other important cities are Peoria, Quincy, Rockford, Joliet, and Bloomington. Springfield is the capital.

7. **Wisconsin.** — Extensive forests in the north, rich deposits of lead and iron, a fertile soil, and great facilities for commerce, form the principal natural advantages of this state. The leading industries are agriculture, mining, lumbering, and manufacturing.

8. **Chief Cities.** — Milwaukee is the commercial metropolis. It is a great wheat-market, and one of the most beautiful and flourishing cities of the North-West. La Crosse, Oshkosh, Racine, Eau Claire, and Sheboygan come next in importance. Madison is the capital.

9. **Michigan.** — Michigan consists of two peninsulas. The upper peninsula is rugged, and in parts mountainous, with a generally sterile soil; but it is valuable on account of its rich veins of copper and iron, and its heavy pine-forests. The lower peninsula has a generally level surface, a fine climate, and a fertile soil. The leading industries are lumbering, salt-making, farming, fruit-raising, and manufacturing, in the lower peninsula; and copper and iron mining in the upper peninsula.

10. **Chief Cities.** — Detroit has the best harbor on the Great Lakes, and is engaged in manufacturing and in foreign and domestic commerce. Grand Rapids, Saginaw, and Bay City rank next in importance. Muskegon and Jackson are growing places. Lansing is the capital.

SUPPLEMENTARY NOTES.

History. — In 1787 Congress organized the vast uninhabited region north of the Ohio into a territory called the North-west Territory, and decreed that a certain number of states should be formed from it when each should have a population of 60,000.

The first state carved out of the North-west Territory was Ohio, admitted into the Union in 1803. Its first white population consisted of a company of New-England pioneers under the guidance of Gen. Rufus Putnam; and the first settlement was made at Marietta, so named after Marie Antoinette.

Indiana was originally a part of the North-west Territory. When Ohio became a state, all the remainder of the North-west Territory received the name of Indiana Territory; and from a part of this territory the State of Indiana was created in 1816. Illinois was first a part of the North-west Territory, afterwards of Indiana Territory, and was admitted into the

Union in 1818. Wisconsin was penetrated by the early French missionaries, traders, and trappers, over two hundred years ago. The first permanent settlement was made at Green Bay in 1745. Wisconsin was first part of the North-west Territory, then part of Indiana Territory, then of Illinois Territory, and afterwards of Michigan Territory. In 1836 it became a separate territory, and in 1848 was admitted as a state. Michigan was first a part of the North-west Territory, and afterwards of Indiana Territory. In 1805 it became a separate territory, and in 1837 was admitted as a state.

Names. — Ohio was named from the Ohio River, which in the Indian language signifies "river of blood." Indiana is a name formed from the word Indian. Illinois took its name from the Illinois River and tribe of Indians. Wisconsin took its name from the Wisconsin River. Michigan took its name from Lake Michigan.

CENTRAL STATES: WESTERN DIVISION.



VIEW OF ST. LOUIS.

I.

QUESTIONS ON THE MAP.

I. QUESTIONS BY STATES.

The Section.—What seven states in this section? What parallel and what natural boundaries separate it from Canada? What natural boundary on the east? What hills in the western part? What plateau in the north-west? What elevation in the north-east?

Minnesota.—What elevation in the northern part of Minnesota? In what direction do the streams flow from the Height of Land? What lakes on the northern border? Which of the Great Lakes on the eastern border? What two lakes north of the Height of Land? What five lakes south of the Height of Land? What two lakes on the western border? What lake on the eastern border? What lake is the source of the Mississippi? What are the principal tributaries of the Mississippi in or bordering this state? Which city is the capital? What two cities on the Mississippi? What city on Minnesota River? What port near the western extremity of Lake Superior?

Iowa.—What natural boundary has Iowa on the east? On the west? Which part of the state is hilly? What river crosses the state? What other tributaries of the Mississippi in this state? Which city is the capital? On what river are most of the large cities? Name them. What cities on the Missouri?

Missouri.—What natural boundary has Missouri on the east? What mountains in the south? What mountains in the south-west? What two mountain summits in the eastern part? What river crosses the state? What is the principal tributary of the Missouri from the south? Which city is the capital? What large city on the Mississippi, near the mouth of the Missouri? What city on the Mississippi north of the Missouri? What city on the Missouri where that river enters the state? What city on the Missouri north of Kansas City?

Kansas.—What parallel is the northern boundary of Kansas? What parallel is the southern boundary? What river crosses the south-western

part of the state? What river north of the Arkansas? Of what river is it a tributary? What are the principal branches of the Kansas River in this state? In what part of the state are most of the cities and towns? What two cities on the Kansas River? Which is the capital? What two cities on the Missouri? What city in the south-eastern part? What city on the Arkansas River?

Nebraska.—What parallels form the southern boundary of Nebraska? What natural boundary on the east? What branch of the Missouri River crosses the northern part? What river crosses the state? Of what river is it a tributary? What city is the capital? What cities on the Missouri River? What city on the Platte River?

South Dakota.—What state north of South Dakota? What states east? What states west? What mountains in the western part? What plateau in the central part? What tributaries has the Missouri River in this state? What is the capital and where is it situated?

North Dakota.—What country north of North Dakota? What state east? What state south? What state west? What plateau in the central part? What lakes in the northern part? What river crosses the state? What is the capital?

II. REVIEW QUESTIONS.

States.—How bounded? What is the capital?

Minnesota? Iowa? Missouri? Kansas? Nebraska? South Dakota? North Dakota?

Mountains.—Where are they?

Black Hills? Height of Land? Pilot Knob? Iron? Ozark? Pea Ridge?

Rivers.—Where does it rise? In what direction, through what states, and into what body of water, does it flow? (See Map of United States.)

Mississippi? Missouri? Minnesota? Red? Des Moines? Platte? Kansas?

Cities.—In what part of what state is it? How situated?

St. Paul? Des Moines? Jefferson City? Topeka? Lincoln? Yankton? Minneapolis? Dubuque? Davenport? St. Louis? Kansas City? Omaha? Sioux Falls? Bismarck?



II.

DESCRIPTION.

1. **Situation.**—This group includes Minnesota, Iowa, Missouri, Kansas, Nebraska, South Dakota, and North Dakota.

The boundary separating this section from the Dominion of Canada is formed by the 49th parallel, the Lake of the Woods, Rainy River, Rainy Lake, Crooked Lake, and Pigeon River.

2. **The surface** is generally level. The western part is in the Plains; the eastern, in the low plain of the Mississippi, to which the ground falls by a slight slope from the foothills of the Rocky Mountains.

The only considerable elevations are the short ranges and knobs of the Ozark Mountains in Missouri, and the Black Hills of South Dakota.

3. **Drainage.**—Most of the rivers of this section are tributaries of the Mississippi.

The Mississippi rises in a small lake in northern Minnesota, on the Height of Land. At first a slender rivulet from ten to twelve feet in width, it receives the waters of various lakes and small streams, and is soon swelled by two large tributaries,—the Minnesota and St. Croix. It is navigable for steamboats below the Falls of St. Anthony.

4. **Climate.**—The climate of this region presents great extremes: the summers are warm; the winters exceedingly severe, especially in the northern part.

5. **Productions and Pursuits.**—The principal pursuits are agriculture, stock-raising, and mining.

Agriculture.—The soil of the river-valleys is exceedingly fertile. The staple products are corn, wheat, hay, oats, hemp, and potatoes. Stock-raising is largely carried on.

Mining.—In the number, extent, and value of its mineral deposits, Missouri surpasses every other state. Those most largely mined are iron, lead, and coal. Iowa has inexhaustible fields of bituminous coal, and is rich in lead. Kansas has abundant deposits of coal, iron, and salt. South Dakota has very rich and productive gold mines.

Commerce.—These states are crossed by many navigable rivers and by numerous railroads, which connect with trunk lines east of the Mississippi.

III.

THE STATES.

REFERENCE TABLE.

STATES.	Area in Sq. Miles.	Population in 1890.	STATES.	Area in Sq. Miles.	Population in 1890.
Minnesota . . .	83,365	1,301,826	Kansas	82,080	1,427,096
Iowa	56,025	1,911,896	Nebraska . . .	77,510	1,058,910
Missouri	69,415	2,679,184	South Dakota . .	77,650	328,808
			North Dakota . .	70,795	182,719

1. **Minnesota.**—Minnesota occupies the central part of North America, and includes the Height of Land which divides the Arctic Plain from the valley of the Mississippi. The leading industries are agriculture (the chief products being wheat and oats), lumbering, and manufacturing, the principal articles being sawed lumber and flour.

Minnesota, together with Wisconsin and the upper peninsula of Michigan, forms an extensive undulating table-land, with an average height of about 1,000 feet. In north-western Minnesota the surface reaches a height of 1,700 feet. This elevation, known as the "Height of Land" (the highest region between the Gulf of Mexico and Hudson Bay), forms a watershed which sends out streams to all points of the compass.

2. **Chief Cities.**—St. Paul is the capital. Minneapolis, the largest city, at the Falls of St. Anthony, is noted for the manufacture of flour and lumber. Duluth is an important lake port.

3. **Iowa.**—Iowa possesses a fertile prairie soil, and rich deposits of coal and lead. Agriculture is the leading industry; but lead and coal mining are extensively carried on.

The coal-field of Iowa embraces an area of several thousand square miles, and is practically inexhaustible. The coal is bituminous and of excellent quality. The lead-mines in the northeast have been worked for many years.

4. **Chief Cities.**—Des Moines, the capital, and Sioux City in the northwest, and Dubuque, Davenport, Burlington and Keokuk, on the Mississippi, are chief cities.

5. **Missouri.**—Missouri is the most populous state west of the Mississippi, and has an area nearly equal to that of New England.

Extensive iron-mining is carried on in the section south of St. Louis, and the mining of lead and coal is an important industry. Agriculture is a leading occupation, and great crops of corn, wheat, rye, tobacco, hemp, and grapes are raised in the prairie section. The manufacturing interest is large and increasing.

This state possesses the navigation of the two greatest rivers in the United States. By means of the Mississippi, which forms the entire eastern boundary, the state has water communication with the most northern part of the Union; by means of the Missouri River internal communication is extended to the Rocky Mountains. Into these two great channels all the streams of the state finally flow.

6. **Chief Cities.**—St. Louis, the largest city west of the Mississippi River, occupies a commanding position for domestic and foreign commerce, and is largely engaged in iron-manufactures. Magnificent steel bridges cross the Mississippi River at this point. Kansas City and St. Joseph are the places next in importance. Jefferson City is the capital.



FARMING IN THE GREAT WEST.



FALLS OF ST. ANTHONY AND LUMBERING SCENE.

7. **Kansas.**—The natural wealth of Kansas consists of a fertile soil, abundant pasturage for stock, rich deposits of coal, and ready means of communication. The leading industries are agriculture in the eastern section, and stock-raising on the great grassy prairies to the west.

The prairies are covered with a variety of nutritious grasses, which last all winter, drying into hay on the ground, and supporting vast herds of beef-cattle, which require no housing.

8. **Chief Cities.**—Kansas City is the largest city. Topeka, the capital, Wichita and Leavenworth are next in importance.

9. **Nebraska** resembles Kansas in its natural wealth, and in the occupations of the people.

The raising of corn, wheat, and other cereals, and fruit-growing, are carried on with great success in the eastern section; beef-cattle and other live-stock are raised in great numbers in the western grazing regions. Its cheap and fertile lands, together with the ready means of communication, are rapidly making Nebraska a great and populous state.

10. **Chief Cities.**—Omaha is the largest city. Lincoln is the capital.

11. **South Dakota.**—Agriculture, stock-raising, and mining are the chief occupations of the people of South Dakota.

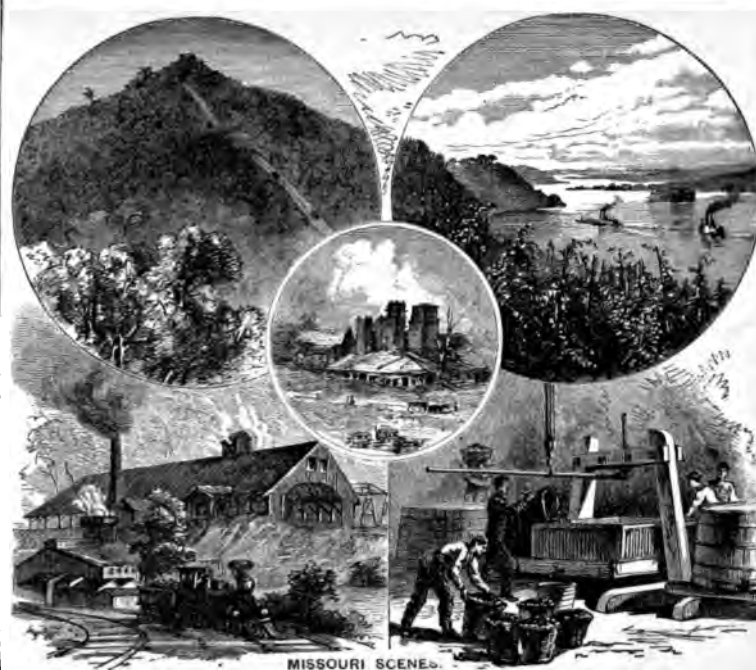
Population and wealth are increasing rapidly. The "Bad Lands" are an extensive arid tract in the southwest. But the greater part of the state is exceedingly fertile.

12. **Chief Cities.**—Sioux Falls, Huron, and Yankton. Pierre is the capital.

13. **North Dakota.**—This is a great agricultural state.

Wheat is the leading product, and many of the farms are very extensive. The farm represented on the previous page is in North Dakota.

14. **Capital.**—Bismarck, on the Missouri, is the capital.



SUPPLEMENTARY NOTES.

History.—Minnesota was first explored by the Jesuit missionaries two hundred years ago, and was a part of the great Louisiana purchase. It was organized as a territory in 1849, and became a state in 1858.

Iowa was originally a part of the Louisiana purchase. It was organized as a separate territory in 1838, and admitted as a state in 1846.

Missouri was originally a part of the Louisiana purchase, and, when the present state of Louisiana was admitted, the remainder of the extensive domain was erected into the territory of Missouri. The state was formed from a part of this territory, and was admitted into the Union in 1820.

Kansas was originally a part of the Louisiana purchase. It first came prominently into notice in 1854, when a law was passed organizing the Kansas-Nebraska Territory, and leaving to "popular sovereignty" the question whether it should be a free or a slave state. The friends of both sides poured into this territory, and for several years its soil was the scene of lawlessness and bloodshed; but the antislavery party triumphed, and Kansas was admitted as a free state, January 30, 1861.

Nebraska, originally a part of the Louisiana purchase, was, jointly with Kansas, organized into a territory in 1854. When Kansas became a state in 1861 Nebraska remained for some years a territory, but finally was admitted into the Union in 1867.

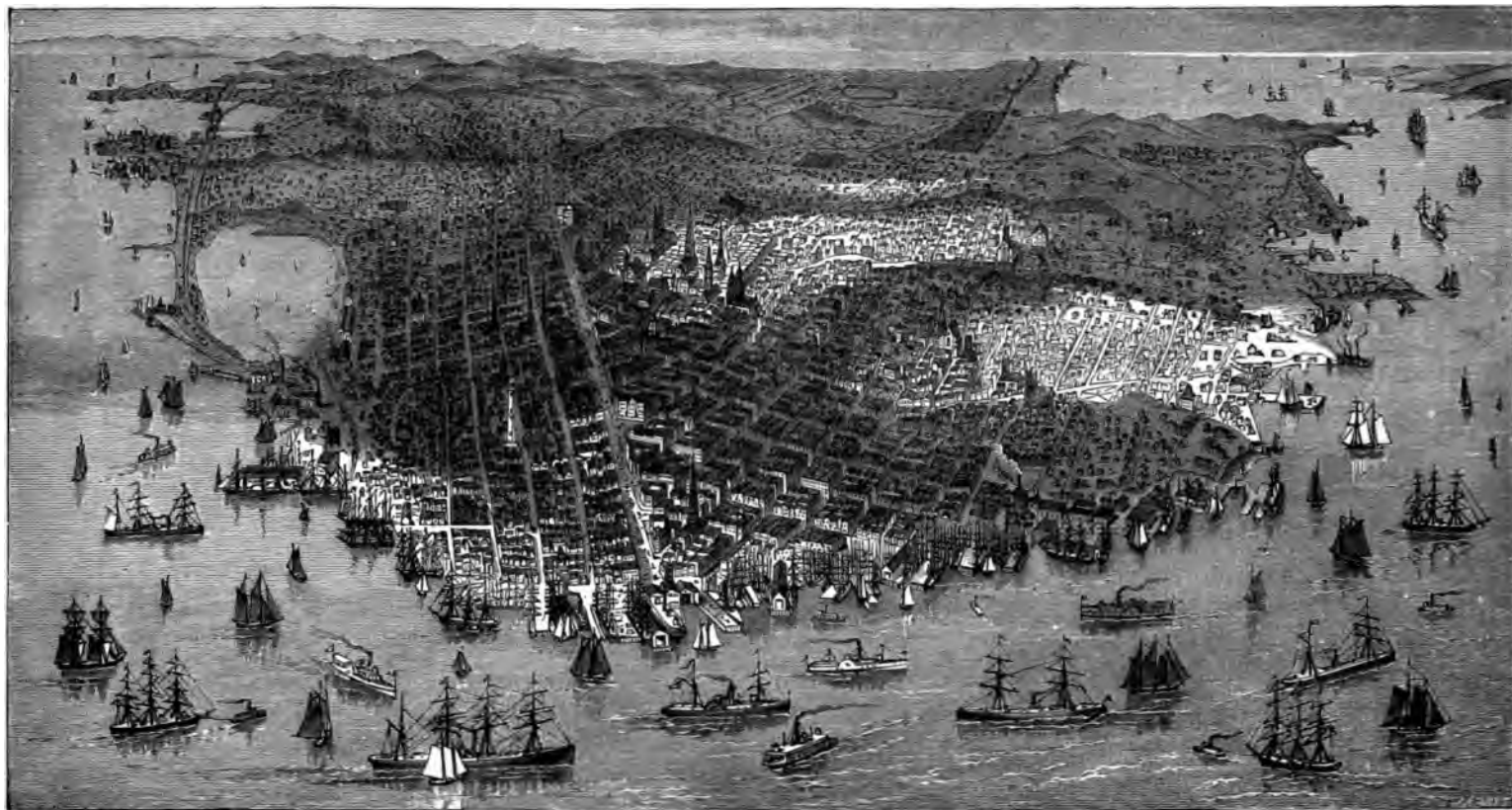
Dakota, originally a part of the Louisiana purchase, became a part of Minnesota Territory, which was organized in 1849. It was organized as a territory in 1861, but it then included the present territories of Montana and Wyoming. The territory was divided into the states of South Dakota and North Dakota in 1889.

Names.—Minnesota is called after the river of the same name, signifying "cloudy river." Iowa is called after the river of the same name: it is the French form of an Indian word signifying "the sleepy ones," the name of an Indian tribe. Missouri takes its name from its chief river, signifying "muddy water." Kansas, meaning "smoky water," Nebraska, meaning "water valley," and Dakota, signifying "leagued,"—the common name of the confederated Sioux tribes,—are all named from Indian tribes identified with their history.



WINTER TRAVEL ON THE UNION PACIFIC RAILROAD.

PACIFIC STATES AND TERRITORIES.



VIEW OF SAN FRANCISCO.

I.

QUESTIONS ON THE MAP.

I. QUESTIONS BY STATES.

The Section.—What are the states and territories of this section?
Ans. They are the states of Montana, Wyoming, and Colorado, and the territory of New Mexico, in the Rocky Mountain division; the states of Nevada, Utah, and Idaho, and the territory of Arizona, in the Great Plateau; and the states of California, Oregon, and Washington, with Alaska Territory, in the Pacific Coast division.

Montana.—What mountains in the western part of Montana? What river crosses the northern part? What large branch of the Missouri crosses the southern part? What is the capital?

Wyoming.—What park in the north-western part? Name the mountain-ranges. What river in the south-eastern part? What is the capital?

Colorado.—What mountains in Colorado? What four "parks" are in these mountains? What peak in the central part of the state? What great rivers have their source in this state? What city is the capital? What towns south-west of Denver?

New Mexico.—What river crosses New Mexico? What is the capital? What place south-west of Santa Fé?

Idaho.—What natural boundary on the north-east? What tributaries of the Columbia cross the state? What is the capital?

Nevada.—What mountain-ranges in this state? What lakes? Do any rivers cross it? What is the capital? What place north of Carson City?

Utah.—What mountain-chains in Utah? What large lake? What is the capital? What place north of Salt Lake City?

Arizona.—What two rivers cross Arizona? What is the capital?

California.—What natural boundary has California on the west? What country south? What mountain-chain in the eastern part? What range in the western part? Name three lakes in this state. What noted valley

south of the thirty-eighth parallel? What two large rivers unite, and flow into San Francisco Bay? What strait ("gate") at the entrance of this bay? What city is the capital? What city on the west side of San Francisco Bay? On the east side? What city east of Oakland? South?

Oregon.—What boundary river has Oregon on the north? On the east? What natural boundary on the west? What mountains extend through the state? What is the capital? What city north of Salem?

Washington.—What country on the north? What natural boundary on the west? On the south? What cape projects from the north-western part? What mountain-peaks in this state? What is the capital?

Alaska.—(See Map of North America.) What ocean north of Alaska? South? Sea west? What circle crosses Alaska? What volcano in Alaska?

II. REVIEW QUESTIONS.

States or Territories.—How bounded? What is the capital?

Montana? Wyoming? Colorado? New Mexico? Idaho? Nevada? Utah? Arizona? California? Oregon? Washington? Alaska?

Capes.—From what coast does it project?

Point Conception? Mendocino? Flattery?

Mountains.—Where are they?

Rocky? Sierra Nevada? Coast? Cascade? Wasatch? Uinta? Mount Whitney? Mount Hood? Rainier?

Rivers.—Where does it rise? In what direction, through what states or territories, does it flow?

Columbia? Missouri? Yellowstone? Rio Grande? Colorado? Gila? Sacramento? San Joaquin? Klamath?

Lakes.—Where situated?

Great Salt? Tulare? Pyramid? Tahoe?

Cities.—In what part of what state is it? How situated?

Helena? Cheyenne? Denver? Santa Fé? Boise? Carson City? Salt Lake City? Phoenix? Sacramento? Salem? Olympia? Albuquerque? Spokane? Virginia City? Ogden? Tucson? San Francisco? Oakland? Portland? Pueblo?





GEYSERS AND FIRE-BASINS IN THE ROCKY MOUNTAINS.

II.

ROCKY MOUNTAINS AND GREAT PLATEAU.—DESCRIPTION.

1. **Situation.**—This group includes the states and territories of the Rocky Mountains and of the Great Plateau.

Montana, Wyoming, Colorado, Utah, Idaho, and Nevada are states; New Mexico and Arizona are territories.

2. **Surface.**—The great natural feature of this region is the Rocky Mountain system, the main axis of which traverses it in a general south-easterly direction. The Rocky Mountains within this section comprise several chains more or less parallel, and connected by numerous cross ranges.

I. Some of the grandest scenery in the world is found in the Rocky Mountains. Among the most remarkable localities are the mountain scenery and “parks” of Colorado, the Fire Hole Basin, and the Cañon of the Yellowstone. The Fire Hole Basin is in the valley of the Madison River, one of the head streams of the Missouri. It contains many hundreds of boiling springs and spouting geysers, far exceeding those of Iceland in size and grandeur. The Grand Geyser, the most magnificent in the world, throws a stream of hot water to a height of 300 feet. The Cañon of the Yellowstone is a great mountain-vent, with perpendicular basaltic walls from 1,000 to 2,000 feet high. For a distance of twenty-five miles along this mighty chasm the river rushes with fearful velocity, making in one place a leap of 300 feet, forming one of the grandest of waterfalls. The rocks in many places along the cañon are worn into fantastic shapes, resembling ruined castles with minarets and spires.

II. A section of this magnificent mountain-region, two-thirds the size of Connecticut, has been set apart by Congress as a great “National Park.” Within its limits are not less than ten thousand boiling springs and geysers, and many grand waterfalls, deep cañons, beautiful lakes, and rugged mountain-peaks.

3. **Climate.**—This section has a cool climate, owing to its elevation above the level of the sea. It is also noted for its dryness. This is due to its great distance from the ocean, the

rain-clouds from which are deprived of their moisture by the intervening mountains.

4. **Industries.**—This section is rich in mines of gold, silver, copper, lead, and coal, and the vast grassy plains afford fine pasturage: hence mining and stock-raising form the leading industries of the inhabitants.

III.

THE STATES AND TERRITORIES.

REFERENCE TABLE.

ROCKY MOUNTAIN DIVISION.			GREAT PLATEAU DIVISION.		
STATES OR TERRITORIES.	Area in Sq. Miles.	Population in 1890.	STATES OR TERRITORIES.	Area in Sq. Miles.	Population in 1890.
Montana . . .	146,080	132,159	Idaho	84,800	84,385
Wyoming . . .	97,890	60,705	Nevada	110,700	45,761
Colorado . . .	103,925	412,198	Utah	84,970	207,905
New Mexico Ter.	122,580	153,593	Arizona Ter. . .	113,020	59,620

5. **Montana.**—The gold, silver and copper mines of Montana are extensively worked, and the mountain pastures afford great advantages for stock raising.

6. **Chief Places.**—Helena is the capital and largest city. Butte is the next city in importance.

7. **Wyoming.**—The principal industries of this state are stock-raising and the mining of coal and gold.

8. **Chief Places.**—Cheyenne, the capital, is an important railroad center, and distributing point for general merchandise. Laramie is the next largest city. Sherman Station (8,000 feet) is the highest point in the Rocky Mountains crossed by the Pacific Railroad.

9. **Colorado** is divided by the Rocky Mountains into the



GREAT SALT LAKE.

eastern section, which resembles Kansas, and the western section, which is a mountain-plateau region.

The leading industries are gold and silver mining, largely carried on in the mountains, and grazing and agriculture in the eastern section.

10. **Chief Places.**—Denver is the capital and largest city. The many important railroad lines centering here make it the metropolis of an extensive region of country. Pueblo, Leadville, and Colorado Springs rank next in population.

11. **Utah** abounds in mineral wealth, and is very rich in silver-mines, which are extensively worked. Agriculture depends wholly on irrigation, except in a very few small areas.

12. **Salt Lake City** is the capital and largest city.

13. **Idaho** is rich in gold and silver, and has also extensive deposits of salt, coal, and iron.

14. The capital is Boise.

15. **Nevada.**—Nevada is noted for its silver-mines, which for a number of years yielded more than one-half of all the silver annually produced in the United States.

16. **Chief Places.**—Virginia City, famous for its rich silver-mines, is the largest place. Carson City is the capital.

17. **New Mexico** has rich mines, which are being rapidly opened and developed. Stock raising is also extensively carried on in the valleys. New Mexico was first visited by the Spaniards about 1540, at which time it contained several important Indian settlements.

18. **Santa Fé** is the capital, and Albuquerque, largest place.

19. **Arizona.**—Arizona includes the hottest and driest portion of the United States. Its surface is much diversified. The northern part is a high plateau, cut through by the stupendous cañon of the Colorado River.

The Colorado River has worn through the soft strata of sandstone a narrow channel, that in many places is from 2,000 to 6,000 feet deep.

The passage through this deep and gloomy cañon is exceedingly dangerous.

This territory is rich in mines of silver, copper, and other minerals, which are being extensively developed. Coal and iron are abundant.

20. The capital is Phoenix. Tucson is an important city.

IV.

PACIFIC COAST DIVISION.—DESCRIPTION.

1. **Situation.**—This group includes the states of California, Oregon, and Washington, with Alaska Territory.

2. **Seacoast.**—Exclusive of Alaska, this section has a coast line of about one thousand miles. Good harbors, however, are not numerous.

3. **Surface.**—The lofty chain of the Sierra Nevada extends through California into Oregon and Washington, where it is called the Cascade Range. The Coast Range is a series of low chains near the Pacific coast.

4. The climate of the Pacific Coast is unlike that of any other part of the United States. In California and Oregon it is mild and equable throughout the year; but it presents great extremes of moisture, the rains being confined to the period from November to April, and no rain falling during the other months.

V.

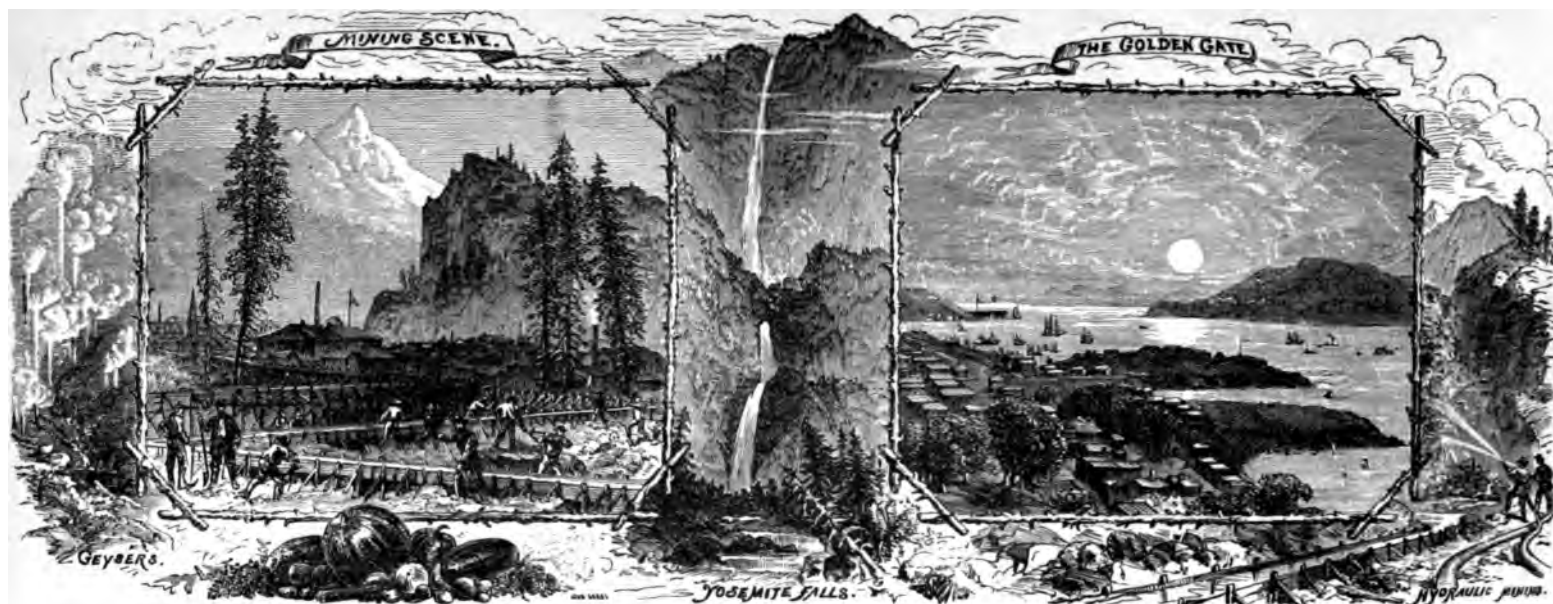
THE STATES AND TERRITORIES.

REFERENCE TABLE.

STATES OR TERRITORIES.	Area in Square Miles.	Population in 1890.
California	158,360	1,208,130
Oregon	96,030	313,767
Washington	69,180	349,390
Alaska Territory	577,390	30,322

1. **California** ranks as the wealthiest and most populous of the Pacific States. It is, next to Texas, the largest state in the Union.

2. **Physical Features.**—This state may be divided into four sections: (1) the mountain-region of the Sierra Nevada, (2) the desert plateau-region east of that range, (3) the fertile valley-region between the Sierra Nevada and the Coast Range moun-



tains, and (4) the narrow coast-belt bordering on the Pacific Ocean. Los Angeles ranks next in population. Sacramento is the capital.

California is famed for its grand and striking natural features. Among these are the Yosemite Valley and Falls, the Big-Tree Groves, Lake Tahoe, and the Geysers.

3. In **natural wealth** this state is highly favored. It is rich in gold, silver, quicksilver, and other minerals. Its fertile soil and favorable climate adapt it to the production of the grains and fruits both of the temperate and semi-tropical climes. Its situation on the Pacific Ocean gives it command of the trade with the Orient.

4. The chief industries are agriculture, stock-raising, mining, and manufacturing. California is the leading state in the export of wheat, gold, quicksilver, wool, and wine. The orange, lemon, fig, olive, and almond are cultivated in the central and the southern parts.

5. **Chief Cities.**—San Francisco is the commercial emporium of the whole western coast of North America, and has a large trade with China, Japan, India, Australia, the Hawaiian Islands, and other

islands of the Pacific. Los Angeles ranks next in population. Sacramento is the capital.

6. **Oregon** is as large as New York and Pennsylvania, but more thinly populated. The leading industries are agriculture, to which the fertile river valleys are finely adapted; stock-raising, which is largely engaged in; and cutting timber from the immense pine-forests that cover the western slopes of the Cascade Mountains. The salmon-fisheries also are important.

7. **Chief Cities.**—Portland, on the Willamette, is the largest city. Salem is the capital.

8. **Washington** has a great extent of sea-coast, valuable coal-fields, and forests of pine and cedar. Agriculture, mining, lumbering, and commerce are the chief pursuits.

9. The **Capital** is Olympia. Seattle and Tacoma are the largest cities.

10. **Alaska.**—This great isolated possession (purchased from Russia in the year 1867) is organized as a territorial district, having its own governor, civil officers, and courts of justice.

Forests, fur-bearing animals, and seal-fisheries constitute the wealth of Alaska.



SUPPLEMENTARY NOTES.

History.—Oregon, Washington, Idaho, and parts of Montana and Wyoming belong to the United States by right of exploration and settlement, confirmed by treaty with Spain in 1819. Utah, Nevada, and California were included in the territory ceded by Mexico in 1848. Colorado and Wyoming, in their present limits, were partly in the Louisiana purchase, and partly in the cession of 1848. New Mexico and Arizona were partly in the cession of 1848, and partly in the Gadsden purchase from

Mexico in 1853. Montana was organized as a territory in 1864, and admitted as a state in 1889; Oregon was organized as a territory in 1848, and admitted as a state in 1859. Washington was organized as a territory in 1853, and became a state in 1889; Nevada became a state in 1864; California, in 1850, and Colorado, in 1876. Wyoming was organized as a territory in 1868; New Mexico and Utah, in 1850; Arizona and Idaho, in 1863. Idaho and Wyoming became states in 1890; Utah, in 1896.

STANDARD TIME.

1. — On the 18th of November, 1883, the principal railway lines of the United States and Canada adopted a new method of computing and recording time, for the purpose of securing **a uniform time standard** which should simplify the business of transportation, and add to the convenience of travelers. It is almost wholly for purposes of travel and transportation that the majority of people have need of accurate time; and everywhere, except in very large cities, business has always been regulated by railroad time.

2. — The defects of the old system of time standards were mainly as follows: —

1. There were formerly more than fifty standards of railway time in the United States. Now there are but four.
2. The old standards differed from each other, where they intersected, by all sorts of variations, errors, and odd minutes. Now the differences between the standards are an exact hour, and the minutes and seconds are the same in all four divisions.
3. Formerly there were almost innumerable places at which standards changed. Now the points of change are few in number, and always at prominent points of railway departure.
4. Formerly almost every railway center had two or three standards of time. Chicago used three; Kansas City had five; and St. Louis, where fourteen roads center, used six different standards.

3. — In the plan which has now been adopted, it was proposed —

1. That the same standard should govern as many railroads as possible.
2. That the standards should not extend over so large an area of territory as to cause standard time to differ at any point by more than about thirty minutes from local time (mean solar time).¹
3. That each standard should vary from the adjacent standards by the most readily calculated difference, that of an even hour.
4. That changes from one standard to another should be made at well-known points of departure.
5. That these changes should be made at the termini of roads where changes naturally occur, except on the transcontinental lines, and in a few other unavoidable cases, where they should be made at the ends of divisions.
6. That, the seventy-fifth meridian west from Greenwich being almost precisely the central meridian for the system of roads using standards based upon the time of Eastern cities, and the ninetieth meridian being equally central for the roads running by the time of Western cities, the time of those meridians should be adopted for the territory which includes nearly ninety per cent of our whole railway system. The hour meridians east and west of those named (the 60th on the

east, and the 105th and 120th on the west) were found to be equally well adapted as central meridians for the roads in the section of country adjacent thereto.

4. — The problem in this country presented a feature nowhere else encountered. Standard time was introduced throughout the Island of Great Britain as long ago as the year 1848. There the railways demanded uniform time, and Greenwich time was adopted. France also has a uniform standard. But the continent of North America covers too many degrees of longitude to permit of the use of any one meridian as a single hour standard for all points between the two oceans. Under such a system, there would be points where local time would differ from standard time by about two hours.

5. — The new system divides the United States into four sections. At all places in the same section, time is the same.

The first section, which is governed by the time of the 75th meridian west from Greenwich, embraces all the territory between the Atlantic coast and Detroit, Pittsburg, Wheeling, Parkersburg, Huntington, Bristol, Augusta, and Charleston, as indicated on the accompanying map (see next page). This is called **Eastern time**. At 12 mid-day, on the 75th meridian, every clock and time-ball, from Calais to Pittsburg, and from Quebec to Charleston, indicates the hour of noon.

The second section is governed by the time of the 90th meridian, called **Central time**. It includes all the territory from the western limits of the Eastern time (that is, from Detroit, Pittsburg, Augusta, etc.) to Bismarck, North Platte, Dodge City, etc. Time in this section is one hour slower than Eastern time.

The third section extends from the last-named places westward to Heron (Montana), Ogden (Utah), The Needles (Arizona), etc. Time in this section is that of the 105th meridian (one hour slower than central time), and is denominated **Mountain time**.

Between the western limits of mountain time and the Pacific Ocean, the standard is **Pacific time**, governed by the 120th meridian, one hour slower than mountain time.

6. — At 12 noon in New-York City the time at Chicago is 11 A.M.; at Denver, 10 A.M.; and at Portland (Oregon), 9 A.M. By the old system, at 12 noon in New York it was 11.05 in Chicago, 9.56 in Denver, and 8.46 in Portland.

7. — The adoption of a uniform standard of time by the railway lines has led to the abandonment of local time in nearly all the cities of the United States. The time of the 75th meridian was selected as the standard for the District of Columbia by Act of Congress, approved March 13, 1884.

8. — The fact that standard time in this country is reckoned from meridians exactly five, six, seven, and eight hours west of Greenwich, makes it probable that the system will ultimately be adopted by other nations. An international Congress was held in Washington in October, 1884, for the purpose of recommending a common prime meridian, to be used in the reckoning of longitude throughout the world. The meridian of Greenwich was selected for this purpose, and its adoption by the commercial nations will probably lead to the establishment of a common time standard based on the same meridian.

¹ Time is measured in nature by the motions of the heavenly bodies. The great natural measures are three in number, — the year, the lunar month, and the day. All other divisions of time, as the civil month, the week, the hour, the minute, and the second, are arbitrary and conventional.

A *day*, then, is the shortest measure of time afforded by nature. It is denoted by the revolution of the earth; and, although the motion of the earth is perfectly uniform, we have three kinds of natural days, all varying in length, — the solar, the lunar, and the sidereal.

A *solar day* is the period occupied by a single revolution of the earth on its axis in relation to the sun.

A *lunar day* is the interval of time occupied by a revolution of the earth on its axis in relation to the moon.

A *sidereal day* is the period required for a complete revolution of the earth on its axis in relation to the fixed stars.

The *sidereal day*, being perfectly independent of the sun, is not employed for civil purposes. The *lunar day*, on account of the complicated motion of the moon in the heavens, is never employed as a measure of time. It has been found convenient, therefore, to establish an *artificial day*, uniform in length, designated the *mean solar day*. The mean solar day is the average length of all the natural solar days in a year, and is the time intended to be indicated by ordinary clocks and watches.

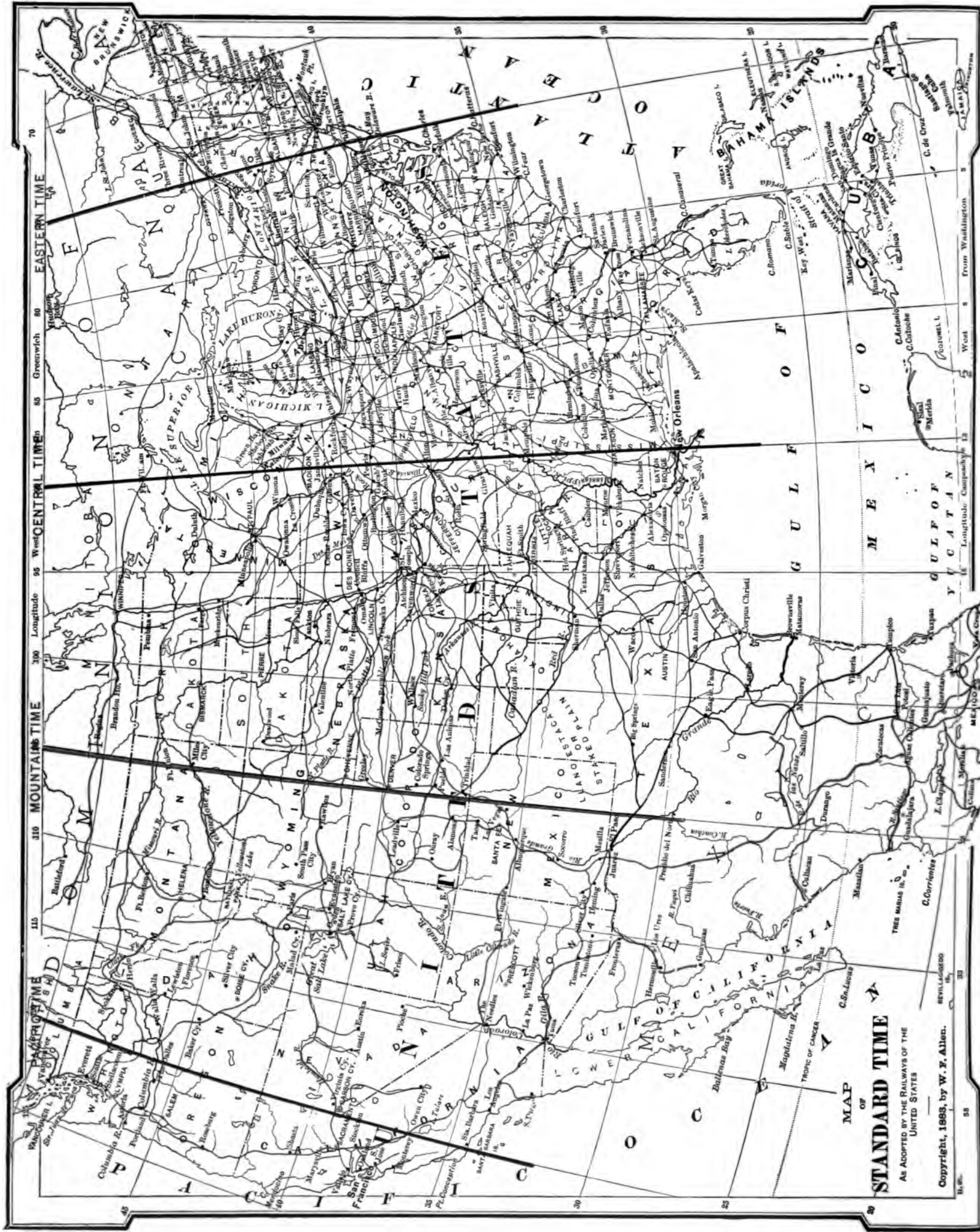
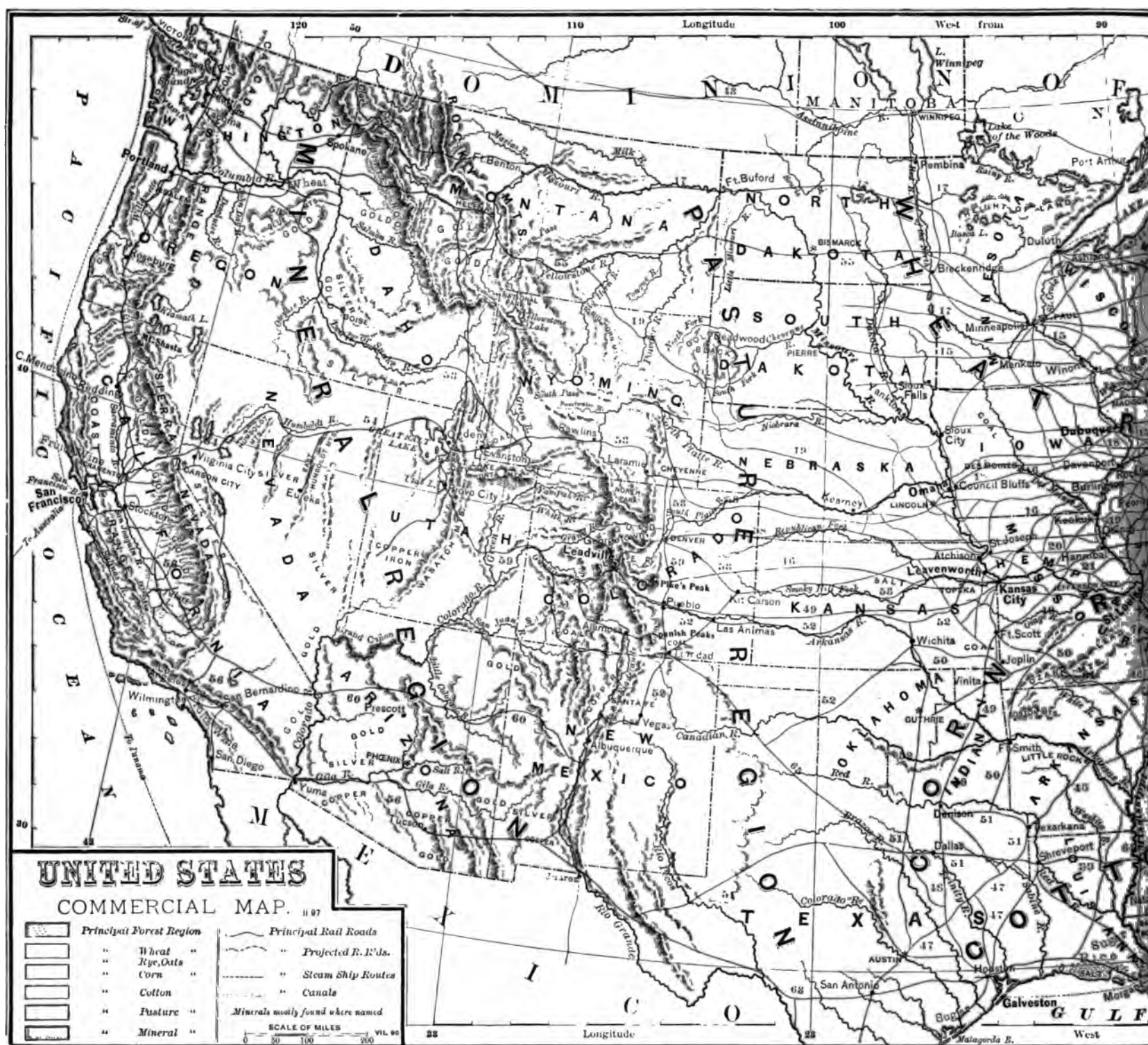


TABLE OF POPULATION.

REFERENCE TABLE.

CITIES, TOWNS, ETC., HAVING A POPULATION OF OVER 10,000 BY THE CENSUS OF 1890.

NAME.	POPULATION.	NAME.	POPULATION.	NAME.	POPULATION.	NAME.	POPULATION.	NAME.	POPULATION.
Akron, O.	27,601	Covington, Ky.	37,371	Jacksonville, Ill.	10,740	Newark, N.J.	181,830	St. Paul, Minn.	133,156
Alameda, Cal.	11,165	Cumberland, Md.	12,729	Jamestown, N.Y.	16,038	Newark, O.	14,270	Salem, Mass.	30,801
Albany, N.Y.	94,923	Dallas, Tex.	38,067	Janesville, Wis.	10,836	New Bedford, Mass.	40,733	Salt Lake City, Utah	44,843
Alexandria, Va.	14,339	Danbury, Conn.	16,552	Jeffersonville, Ind.	10,666	New Brighton, N.Y.	16,423	San Antonio, Tex.	37,673
Allegheny, Pa.	105,287	Danville, Ill.	11,491	Jersey City, N.J.	163,003	New Britain, Conn.	19,007	San Diego, Cal.	16,159
Allentown, Pa.	25,228	Danville, Va.	10,305	Johnstown, Pa.	21,805	New Brunswick, N.J.	18,603	Sandusky, O.	18,471
Alpena, Mich.	11,283	Davenport, Io.	26,872	Joliet, Ill.	23,264	Newburgh, N.Y.	23,087	San Francisco, Cal.	298,997
Alton, Ill.	10,294	Dayton, O.	61,220	Kalamazoo, Mich.	17,853	Newburyport, Mass.	13,947	San José, Cal.	18,060
Altoona, Pa.	30,337	Decatur, Ill.	16,841	Kansas City, Kan.	38,316	New Castle, Pa.	11,600	Saratoga Sp'gs, N.Y.	11,975
Amsterdam, N.Y.	17,336	Denison, Tex.	10,958	Kansas City, Mo.	132,716	New Haven, Conn.	81,298	Savannah, Ga.	43,189
Anderson, Ind.	10,741	Denver, Col.	106,713	Keokuk, Io.	14,101	New London, Conn.	13,757	Schenectady, N.Y.	19,902
Ansonia, Conn.	10,342	Des Moines, Io.	50,093	Key West, Fla.	18,080	New Orleans, La.	242,039	Scranton, Pa.	75,215
Appleton, Wis.	11,869	Detroit, Mich.	205,876	Kingston, N.Y.	21,261	Newport, Ky.	24,918	Seattle, Wash.	42,837
Asheville, N.C.	10,235	Dover, N.H.	12,790	Knoxville, Tenn.	22,535	Newport, R.I.	19,457	Sedalia, Mo.	14,068
Atchison, Kan.	13,903	Dubuque, Io.	30,311	La Crosse, Wis.	25,090	Newton, Mass.	24,379	Shamokin, Pa.	14,403
Atlanta, Ga.	65,533	Duluth, Minn.	33,115	Lafayette, Ind.	16,243	New York, N.Y.	1,515,301	Sheboygan, Wis.	16,359
Atlantic City, N.J.	13,055	East Liverpool, O.	10,956	Lancaster, Pa.	32,011	Norfolk, Va.	34,871	Shenandoah, Pa.	15,944
Auburn, Me.	11,250	Easton, Pa.	14,481	Lansing, Mich.	13,102	Norristown, Pa.	19,791	Shreveport, La.	11,979
Auburn, N.Y.	25,858	East Portland, Ore.	10,532	Lansingburg, N.Y.	10,550	North Adams, Mass.	16,074	Sioux City, Io.	37,806
Augusta, Ga.	33,300	East St. Louis, Ill.	15,169	Laredo, Tex.	11,319	Northampton, Mass.	14,990	Sioux Falls, S.D.	10,177
Augusta, Me.	10,527	Eau Claire, Wis.	17,415	Lawrence, Mass.	44,654	Norwalk, Conn.	17,747	Somerville, Mass.	40,152
Aurora, Ill.	19,688	Edgewater, N.Y.	14,265	Leadville, Col.	10,384	Norwich, Conn.	16,156	South Bend, Ind.	21,819
Austin, Tex.	14,476	Elgin, Ill.	17,823	Leavenworth, Kan.	19,768	Oakland, Cal.	48,682	So. Bethlehem, Pa.	10,302
Baltimore, Md.	434,439	Elizabeth, N.J.	37,764	Lebanon, Pa.	14,664	Ogden, Utah	14,889	Spokane, Wash.	19,922
Bangor, Me.	19,103	Elkhart, Ind.	11,360	Lewiston, Me.	21,701	Ogdensburg, N.Y.	11,662	Springfield, Ill.	24,963
Baton Rouge, La.	10,478	Elmira, N.Y.	30,893	Lexington, Ky.	21,567	Oil City, Pa.	10,932	Springfield, Mass.	44,179
Battle Creek, Mich.	13,197	El Paso, Tex.	10,338	Lima, O.	15,981	Omaha, Neb.	140,452	Springfield, Mo.	21,850
Bay City, Mich.	27,839	Erie, Pa.	40,634	Lincoln, Neb.	55,154	Orange, N.J.	18,844	Springfield, O.	31,895
Bayonne, N.J.	19,033	Evansville, Ind.	50,756	Lincoln, R.I.	20,355	Oshkosh, Wis.	22,836	Stamford, Conn.	15,700
Beatrice, Neb.	13,836	Everett, Mass.	11,068	Little Rock, Ark.	25,874	Oswego, N.Y.	21,842	Steubenville, O.	13,394
Belleville, Ill.	15,361	Fall River, Mass.	74,398	Lockport, N.Y.	16,038	Ottumwa, Io.	14,001	Stillwater, Minn.	11,260
Beverly, Mass.	10,821	Findlay, O.	18,553	Logansport, Ind.	13,328	Paducah, Ky.	12,797	Stockton, Cal.	14,424
Biddeford, Me.	14,443	Fitchburg, Mass.	22,037	Long Isl'd City, N.Y.	30,506	Passaic, N.J.	13,028	Streator, Ill.	11,414
Binghamton, N.Y.	35,005	Fond du Lac, Wis.	12,024	Los Angeles, Cal.	50,395	Paterson, N.J.	78,347	Superior, Wis.	11,983
Birmingham, Ala.	26,178	Fort Scott, Kan.	11,946	Louisville, Ky.	161,129	Pawtucket T'nsip, R.I.	27,633	Syracuse, N.Y.	88,143
Bloomington, Ill.	20,048	Fort Smith, Ark.	11,311	Lowell, Mass.	77,696	Peabody, Mass.	10,158	Tacoma, Wash.	36,006
Boston, Mass.	448,477	Fort Wayne, Ind.	35,393	Lynchburg, Va.	19,709	Pensacola, Fla.	11,750	Taunton, Mass.	25,448
Bradford, Pa.	10,514	Freeport, Ill.	10,189	Lynn, Mass.	55,727	Peoria, Ill.	41,024	Terre Haute, Ind.	30,217
Bridgeport, Conn.	48,866	Fresno, Cal.	10,818	McKeesport, Pa.	20,741	Petersburg, Va.	22,680	Tiffin, O.	10,801
Bridgeton, N.J.	11,424	Galesburg, Ill.	15,264	Macon, Ga.	22,746	Philadelphia, Pa.	1,046,964	Toledo, O.	81,434
Brockton, Mass.	27,294	Galveston, Tex.	29,084	Madison, Wis.	13,426	Pittsburg, Pa.	238,617	Topeka, Kan.	31,007
Brookline, Mass.	12,103	Gloucester, Mass.	24,651	Mahanoy, Pa.	11,286	Pittsfield, Mass.	17,281	Trenton, N.J.	57,458
Brooklyn, N.Y.	806,343	Gloversville, N.Y.	13,864	Malden, Mass.	23,031	Pittston, Pa.	10,302	Troy, N.Y.	60,956
Buffalo, N.Y.	255,664	Grand Rapids, Mich.	60,278	Manchester, N.H.	44,126	Plainfield, N.J.	11,267	Union, N.J.	10,643
Burlington, Io.	22,565	Greenwich, Conn.	10,131	Manistee, Mich.	12,812	Port Huron, Mich.	13,543	Utica, N.Y.	44,007
Burlington, Vt.	14,590	Hagerstown, Md.	10,118	Mansfield, O.	13,473	Portland, Me.	36,425	Vicksburg, Miss.	13,373
Butte, Mont.	10,723	Hamilton, O.	17,565	Marinette, Wis.	11,523	Portland, Ore.	46,385	Waco, Tex.	14,445
Cairo, Ill.	10,324	Hannibal, Mo.	12,857	Marlboro', Mass.	13,805	Portsmouth, O.	12,394	Waltham, Mass.	18,707
Cambridge, Mass.	70,028	Harrisburg, Pa.	39,385	Massillon, O.	10,092	Portsmouth, Va.	13,268	Warwick, R.I.	17,761
Camden, N.J.	58,313	Hartford, Conn.	53,230	Medford, Mass.	11,079	Pottsville, Pa.	14,117	Washington, D.C.	230,392
Canton, O.	26,189	Hastings, Neb.	13,584	Memphis, Tenn.	64,495	Poughkeepsie, N.Y.	22,206	Waterbury, Conn.	28,646
Carbondale, Pa.	10,833	Haverhill, Mass.	27,412	Menominee, Mich.	10,630	Providence, R.I.	132,146	Watertown, N.Y.	14,725
Cedar Rapids, Io.	18,020	Hazleton, Pa.	11,872	Meriden, Conn.	21,652	Pueblo, Col.	24,558	West Bay City, Mich.	12,981
Charleston, S.C.	54,955	Helena, Mont.	13,834	Meridian, Miss.	10,624	Quincy, Ill.	31,494	West Troy, N.Y.	12,967
Charlotte, N.C.	11,557	Hoboken, N.J.	43,648	Michigan City, Ind.	10,776	Quincy, Mass.	16,723	Weymouth, Mass.	10,866
Chattanooga, Tenn.	29,100	Holyoke, Mass.	35,637	Middletown, N.Y.	11,977	Racine, Wis.	21,014	Wheeling, W. Va.	34,522
Chelsea, Mass.	27,909	Hornellsville, N.Y.	10,996	Millville, N.J.	10,002	Raleigh, N.C.	12,678	Wichita, Kan.	23,853
Chester, Pa.	20,226	Houston, Tex.	27,557	Milwaukee, Wis.	204,468	Reading, Pa.	58,661	Wilkesbarre, Pa.	37,718
Cheyenne, Wy.	11,690	Huntington, W. Va.	10,108	Minneapolis, Minn.	164,738	Richmond, Ind.	16,608	Williamsport, Pa.	27,132
Chicago, Ill.	1,099,850	Hyde Park, Mass.	10,193	Mobile, Ala.	31,076	Richmond, Va.	81,388	Wilmington, Del.	61,431
Chicopee, Mass.	14,050	Indianapolis, Ind.	105,436	Moline, Ill.	12,000	Roanoke, Va.	16,159	Wilmington, N.C.	20,056
Chillicothe, O.	11,288	Ironton, O.	10,939	Montgomery, Ala.	21,883	Rochester, N.Y.	133,896	Winona, Minn.	18,208
Cincinnati, O.	296,908	Ishpeming, Mich.	11,197	Mt. Vernon, N.Y.	10,830	Rockford, Ill.	23,584	Woburn, Mass.	13,499
Cleveland, O.	261,353	Ithaca, N.Y.	11,079	Muncie, Ind.	11,345	Rock Island, Ill.	13,634	Woonsocket, R.I.	20,830
Clinton, Io.	13,619	Jackson, Mich.	20,798	Muscatine, Io.	11,454	Rome, N.Y.	14,991	Worcester, Mass.	84,655
Clinton, Mass.	10,424	Jackson, Tenn.	10,039	Muskegon, Mich.	22,702	Rutland, Vt.	11,760	Yonkers, N.Y.	32,033
Cohoes, N.Y.	22,509	Jacksonville, Fla.	17,201	Nanticoke, Pa.	10,044	Sacramento, Cal.	26,386	York, Pa.	20,793
Colorado Sp'gs, Col.	11,140			Nashua, N.H.	19,311	Saginaw, Mich.	46,322	Youngstown, O.	33,220
Columbia, Pa.	10,599			Nashville, Tenn.	76,168	St. Joseph, Mo.	52,324	Zanesville, O.	21,009
Columbia, S.C.	15,533			Natchez, Miss.	10,101	St. Louis, Mo.	451,770		
Columbus, Ga.	17,303			Nebraska City, Neb.	11,494				
Columbus, O.	88,150			New Albany, Ind.	21,059				
Concord, N.H.	17,004								
Council Bluffs, Io.	21,474								



PRINCIPAL RAILROADS IN THE UNITED STATES.

1. GRAND TRUNK.
2. BOSTON AND MAINE.
3. MAINE CENTRAL.
4. CENTRAL VERMONT.
5. BOSTON AND ALBANY.
6. SHORE LINE.
7. NEW YORK CENTRAL AND HUDSON RIVER.
8. ERIE.
9. NEW YORK, PENNSYLVANIA, AND OHIO.
10. PENNSYLVANIA.
11. BALTIMORE AND OHIO.
12. PITTSBURG, FORT WAYNE, AND CHICAGO.
13. LAKE SHORE AND MICHIGAN SOUTHERN.
14. MICHIGAN CENTRAL.
15. CHICAGO AND NORTH-WESTERN.
16. CHICAGO, ROCK ISLAND, AND PACIFIC.
17. GREAT NORTHERN.
18. CHICAGO, MILWAUKEE, AND ST. PAUL.
19. CHICAGO, BURLINGTON, AND QUINCY.
20. HANNIBAL AND ST. JOSEPH.
21. CHICAGO AND ALTON.
22. ILLINOIS CENTRAL.
23. WABASH.
24. BALTIMORE AND OHIO SOUTHWESTERN.
25. PITTSBURG, CINCINNATI, AND ST. LOUIS.
26. CLEVELAND, CINCINNATI, CHICAGO, AND ST. LOUIS.
27. SOUTHERN.
28. RICHMOND, FREDERICKSBURG, AND POTOMAC.
29. CHESAPEAKE AND OHIO.
30. ATLANTIC COAST LINE.
31. SOUTH CAROLINA, AND GEORGIA.
32. GEORGIA.
33. RICHMOND AND DANVILLE.
34. SOUTH FLORIDA.
35. CENTRAL RAILROAD OF GEORGIA.
36. WESTERN AND ATLANTIC.
37. EAST TENNESSEE, VIRGINIA, AND GEORGIA.
38. NORFOLK AND WESTERN.
39. CINCINNATI, NEW ORLEANS, AND TEXAS PACIFIC.
40. SAVANNAH, FLORIDA, AND WESTERN.
41. WESTERN ALABAMA, AND ATLANTA AND WEST POINT.
42. LOUISVILLE AND NASHVILLE.
43. CANADIAN PACIFIC.
44. MOBILE AND OHIO.
45. ILLINOIS CENTRAL (SOUTHERN DIVISION).
46. ST. LOUIS, IRON MOUNTAIN, AND SOUTHERN.
47. INTERNATIONAL AND GREAT NORTHERN.
48. HOUSTON AND TEXAS CENTRAL.
49. MISSOURI PACIFIC.
50. ST. LOUIS AND SAN FRANCISCO.
51. TEXAS AND PACIFIC.
52. ATCHISON, TOPEKA, AND SANTA FE.
53. UNION PACIFIC.
54. CENTRAL PACIFIC.
55. NORTHERN PACIFIC.
56. SOUTHERN PACIFIC.
57. OREGON AND CALIFORNIA.
58. BURLINGTON AND MISSOURI RIVER.
59. DENVER AND RIO GRANDE.
60. ATLANTIC AND PACIFIC.
61. KANSAS CITY, FORT SCOTT, AND MEMPHIS.
62. VANDALIA LINE.
63. GALVESTON, HARRISBURG, AND SAN ANTONIO.
64. YAZOO AND MISSISSIPPI VALLEY.
65. FORT WORTH AND DENVER CITY.



QUESTIONS ON THE MAP.

Agriculture.—What is the principal grain grown in the United States? *Ans.* Corn, or maize. Where is the great "Corn Region"? What are the principal states occupying this region? What bread grain is second in the quantity grown? *Ans.* Wheat. Where is the great "Wheat Region"? What are the principal states occupying it? Where are rye and oats largely grown? Near the seaboard of what states is rice raised? What two states produce sugar? In which of the Central States are hemp and tobacco extensively cultivated? In which of the Southern States, eastern division, is tobacco an important product? Of the exports of the United States, which has the greatest money value? *Ans.* Cotton. In which two sections is the great "Cotton Region"? What are the principal states included in it? In which states is sea-island cotton raised?

Grazing.—Where is the great "Pasture Region" of the United States? What are the principal states included in this region? With what physical region does the "Pasture Region" coincide? *Ans.* The Plains. What can you say of this region? *Ans.* It is the grazing ground of

countless herds of cattle, which are here raised for beef, hides, and tallow. Where are butter and cheese produced in great quantities? *Ans.* In the Middle and East Central States.

Forest Products.—Where is the principal "Forest Region" of the United States? In what other parts are extensive forests? *Ans.* In Maine, New York, North Carolina, Georgia, Alabama, Florida, Oregon, and Washington. In what belt of states are tar, pitch, rosin, and turpentine marked on the map as products?

Minerals.—Where is the great "Mineral Region" of the United States? Which of the physical divisions of the United States does it comprise? Which two precious metals are found in great quantities in this region? Which are the two most useful minerals? *Ans.* Coal and iron. In which sections of the United States are the chief deposits of coal? Name the states. Where is it found most largely? Lead? Copper? Salt? *Ans.* Salt is found in New York, Michigan, and Kansas. In what states is petroleum found?

Manufactures.—In what sections of the United States is manufacturing most largely carried on?

Transportation.—What is a trunk line of railroad? *Ans.* It is a principal line between distant and important points. What divisions of trunk lines are made? *Ans.* The Eastern, Southern, and Western. What are the principal Eastern trunk lines? *Ans.* They are Nos. 1, and 7, 8, 10, 11. (See list of "Principal Railroads.") Name these lines. What is the eastern terminus of the Grand Trunk railroad? What is its western terminus? *Ans.* Detroit. What trunk line from New York to Buffalo? *Ans.* No. 7. What other trunk line between New York and Buffalo? *Ans.* No. 8. What road between Philadelphia and Pittsburgh? What roads form the most direct connection between New York and New Orleans?

What is the great railroad center of Illinois? What road connects Chicago with Detroit? *Ans.* No. 14. Chicago with Buffalo? *Ans.* No. 13. What two trunk lines connect No. 13 with New York City? What road passing through Fort Wayne connects Pittsburgh with Chicago? By what trunk line is Chicago connected with Baltimore and Washington? *Ans.* No. 11. What are the principal roads connecting Chicago and St. Louis?

What two cities are, next to Chicago, the greatest railroad centers in the Central States? What trunk lines connect Chicago with the Union Pacific road at Omaha? What two roads connect St. Paul with Puget Sound? What are the termini of the Illinois Central road? *Ans.* Cairo, Chicago, and Sioux City. What points does the Chicago and Alton road pass through between Chicago and Kansas City? Through what important point does No. 25 pass? What commercial centers are connected by No. 26? By what road is the most direct communication between Cincinnati and St. Louis?

By what road are Washington and Richmond connected? Richmond and Wilmington, N. C.? To what city in South Carolina does this road extend? To what city in Georgia? *Ans.* Augusta. What road connects Richmond with the Ohio River? *Ans.* No. 29. By what roads is Chattanooga connected with Norfolk? How is Chattanooga connected with Cincinnati? By what road is Charlotte connected with Atlanta? By what roads is Atlanta connected with Charleston? By what road is Louisville connected with Memphis? Memphis with Chattanooga? Columbus (Ky.) with New Orleans? Cairo and New Orleans? St. Louis and Texarkana?

What is the eastern terminus of the Northern Pacific road? What is its western terminus? *Ans.* Tacoma, on Puget Sound. What two roads forming a continuous line extend from Omaha to San Francisco? What is the eastern road called? The western? Where do they meet? *Ans.* At Ogden. By what road are Kansas City and Denver connected? Denver and Cheyenne? What roads connect Atchison with Leadville? Atchison with Sante Fé? What is the route of the Southern Pacific road? *Ans.* From San Francisco southward through California, then eastward through Arizona to El Paso on the Rio Grande. How many routes are now completed to the Pacific Coast?

What is the longest canal in the United States? *Ans.* The Erie Canal, connecting the Hudson River with Lake Erie at Buffalo.

[For railroads of particular states, the teacher should ask additional questions.]

PHYSICAL SOUTH AMERICA.



PHYSICAL VIEW OF SOUTH AMERICA.

QUESTIONS ON THE PHYSICAL MAP.

- I. What great circle crosses the northern part of South America? In which zone is the greater part of this grand division? What tropic crosses it? In which zone is the northern part of South America? The southern part? By what isthmus is South America connected with North America? Name the most northerly cape. The most easterly. The most southerly. The most westerly. What time is it at Rio Janeiro when it is noon at Washington? Through what part of South America does the meridian of Washington pass?
- II. Along which coast is the longest and loftiest mountain system? What plateau is in the central part of the system? What lakes on it? What volcanic mountains are near the Equator? What volcano near the Tropic of Capricorn? What highland is in the eastern part of South America? Name three ranges on this plateau. What highland is in the northern part? Name two ranges on it.
- III. What three lowlands east of the Andes? What name is given to the northern lowland? What river drains the llanos? What name is given to the middle lowland? What river drains the selvas? What name is given to the southern lowland? What rivers drain the pampas?

- IV. In what mountain regions does the Orinoco originate? With what branch of the Amazon is it connected? What tributaries of the Amazon drain the Brazilian Highland? What great river forms the principal drainage of the Andes? What and where are the head streams of the Amazon? What river drains the southern part of South America? What is the estuary of the Parana named?
- V. What ocean-currents flow along the northern part of South America? Along the eastern part? The southern? The western?
- VI. In what parts of South America is gold found? Silver? Diamonds? Copper? In what parts of South America is coffee produced? Cotton? Sugar? Tobacco? Pepper? Cacao? Rice? Wheat? Cinchona? Caoutchouc?

DESCRIPTION.

[Area, 6,888,000 square miles. Population, 38,500,000.]

I. SURFACE.

1. **Natural Divisions.**—The surface of South America is naturally divided into three regions,—the Andes region, the Atlantic highlands of Brazil and Guiana, and a central plain comprising the llanos, the selvas, and the pampas.

2. **Pacific Highland.**—The Andes Mountains, which form the main axis of South America, extend along the entire western coast in one, two, or three gigantic ranges, resting on a broad table-land, and enclosing elevated plateaus.

- I. The Andes are the most continuous mountain system on the surface of the earth. They have a breadth of from 200 to 300 miles, and reach their greatest altitude in Chile (Aconcagua) and near the center of the system in Bolivia, where several summits are nearly 24,000 feet above the sea.

- II. The Andes contain several groups of volcanoes, the most noted of which are Chimborazo and Cotopaxi in Ecuador, and Aconcagua in Chile. The whole Andes region is subject to terrible earthquakes, which sometimes destroy entire cities.

3. **Atlantic Highlands.**—The Atlantic highlands are the Brazilian Highland and the Guiana Highland.

- I. The Brazilian Highland is a broad but low table-land, ridged by ranges not over 5,000 to 6,000 feet high.
- II. The Guiana Highland is a rugged region traversed by mountains that form the watershed between the basins of the Amazon and Orinoco Rivers.

4. **The central plain** is the vast level lowland extending from the eastern base of the Andes to the Atlantic Ocean, except where interrupted by the highlands of Brazil and Guiana.

5. **Its Divisions.**—The central plain includes the three immense basins of the Orinoco, Amazon, and La Plata rivers. The plains of the Orinoco are called *llanos*, and are treeless; those of the Amazon are called *selvas*, and are covered with forests, the largest and densest in the world; those of the La Plata are called *pampas*, and are covered with tall grass.





II. DRAINAGE.

6. The river system of South America is the most extensive on the globe, and includes the Orinoco, Amazon, and La Plata.

From the fact that the long slope of South America is eastward from the Andes, all the great rivers flow in that general direction into the Atlantic. The streams flowing into the Pacific are mere mountain torrents.

III. CLIMATE.

7. The two climatic regions of South America are the tropical region and the temperate region, determined partly by latitude and partly by altitude.

8. The **tropical** region includes all that part which is in the lowlands of the Torrid Zone, — three-fourths of South America.

9. The **temperate** region includes the countries of the South Temperate Zone, which, from their latitude, have a moderate temperature; and the high table-lands of the Andes, which, owing to their elevation, have a cool and healthful climate.

10. **Rainfall.** — The tropical plains of South America are remarkable for the abundant rainfall which they receive; but little moisture falls on the Pacific slope, and for more than one thousand miles the coast is rainless.

The Andes have a striking effect on the distribution of moisture over South America. The moisture-laden trade-winds from the east drench the wide plains from November to May; but, in passing over the Andes south of the Equator, these winds are deprived of their moisture, and hence cause on the Pacific side a long stretch of rainless coast. North of Peru, where the mountains have less elevation, the rain-clouds pass down to the Pacific slope, and water it abundantly. Patagonia receives a copious rainfall, caused by the counter trade-winds of the Pacific.

IV. VEGETATION.

11. Owing to its combination of great and continuous heat with abundant moisture, South America has wonderful richness and variety of vegetation. It may be divided into two plant-regions, of which some characteristics are, —



DESCRIPTION.

TABLE OF SOUTH-AMERICAN COUNTRIES, POPULATION, EXPORTS, CITIES, AND GOVERNMENTS.

COUNTRY.	AREA.	POPULATION.	PRINCIPAL EXPORTS.	CAPITAL.	LARGEST CITY, WITH POPULATION IN EVEN THOUSANDS.	SEAPORTS.	GOVERNMENT.
Colombia	464,537	3,321,052	Cotton, coffee, and cinchona-bark.	Bogota.	Bogota, 120.	Cartagena. Panama. Colon.	Republic.
Venezuela	403,067	2,238,900	Coffee, cocoa, indigo, cattle-products (as hides, tallow, etc.).	Caracas.	Caracas, 73.	La Guayra. Maracaybo.	Republic.
British Guiana .	168,965	373,900	Indigo, cocoa, sugar, coffee, spices.	Georgetown.	Georgetown, 53.	Georgetown.	British Colony.
Dutch Guiana .				Paramaribo.	Paramaribo, 29.	Paramaribo.	Dutch Colony.
French Guiana .				Cayenne.	Cayenne, 12.	Cayenne.	French Colony.
Brazil	3,228,452	14,600,000	Coffee, cotton, sugar, hides, dye- woods, India-rubber, diamonds.	Rio Janeiro.	Rio Janeiro, 523.	Rio Janeiro. Bahia. Pernambuco. Para.	Republic.
Paraguay	97,726	330,000	Paraguay tea.	Asuncion.	Asuncion, 45.	Republic.
Uruguay	68,999	711,700	Cattle-products.	Montevideo.	Montevideo, 175.	Montevideo.	Republic.
Argentine Repub- lic	1,077,032	3,203,700	Cattle-products.	Buenos Ayres.	Buenos Ayres, 727.	Buenos Ayres.	Republic.
Chile	299,626	3,165,300	Wheat, copper ore, wool.	Santiago.	Santiago, 257.	Valparaiso.	Republic.
Bolivia	515,156	1,434,800	Cinchona-bark, saltpeter, silver ore.	La Paz*.	La Paz, 62.	Republic.
Peru	439,014	2,980,000	Guano, saltpeter, cinchona-bark, wool.	Lima.	Lima, 104.	Callao.	Republic.
Ecuador	115,680	1,204,400	Cocoa, cinchona-bark, dye-stuffs.	Quito.	Quito, 80.	Guayaquil.	Republic.

* Sucre is the constitutional capital, though the government resides at La Paz, which is thus the virtual capital.

QUESTIONS ON THE POLITICAL TABLE.

I. Which is the most populous country in South America? Which ranks next in population? What three countries have each a population of two millions? Which of the republics has the smallest population? What is the population of the European colonies?

II. The principal tropical products are cocoa, coffee, cotton, India-rubber, indigo, spices, sugar, and tobacco. What countries export coffee? Are these all tropical countries? What country exports cotton? What countries export cocoa? Indigo? Spices? Sugar? Tobacco? What countries export cattle-products? What connection is there between these exports and the llanos and pampas? What countries export cinchona-bark? What country exports copper ore? Silver ore? Guano? Diamonds? What country exports a kind of tea?

III. Name the capital, the metropolis, and the first seaport, of each of the maritime countries of South America.

IV. What is the largest city of South America? Which city is second in size? Which countries of South America have no seaports? Why? Near what geographical circle is the second city of South America?

V. What three European countries have each a colony in South America? Name them, each with its capital and chief city. What are their principal exports?

RANK AND CIVILIZATION OF THE COUNTRIES.

I. Colombia is the most important of the northern republics; it has a commanding geographical position, from its possession of the Isthmus of Panama, across which, from Panama to Colon, there is railroad communication. A proposed ship-canal will connect the Atlantic with the Pacific Ocean.

II. Venezuela is a second-rank republic.

III. The Guianas are mere colonial possessions, and are unimportant, except for their tropical productions.

IV. Brazil ranks as the most powerful country of South America. It embraces nearly one-half the area and over one-third the population of the entire continent; and has more trade with the United States than all other South-American countries, being connected with our country by steamship lines and telegraph. It produces most of the coffee of the world, and one-half of it comes to the United States.

V. Paraguay and Uruguay are small, weak republics, that have suffered greatly from bad government, and are backward in every way.

VI. The Argentine Republic ranks with the first in enterprise; it is receiving emigration from southern Europe, and has a large and increasing commerce. Education is more advanced than in any other South-American country.

VII. Chile is one of the most enterprising of the Spanish-American republics; it has a plentiful proportion of European inhabitants; and has built a railroad over the Andean Mountains. Education is fairly well diffused.

VIII. Bolivia is rich in mines of silver, copper, and tin. Owing to want of communication, the great natural wealth of the country is little developed.

IX. Peru, a progressive republic, has several lines of railroad and many rich silver-mines. It has suffered greatly from wars and political revolutions.

X. Ecuador is a second-rank republic.



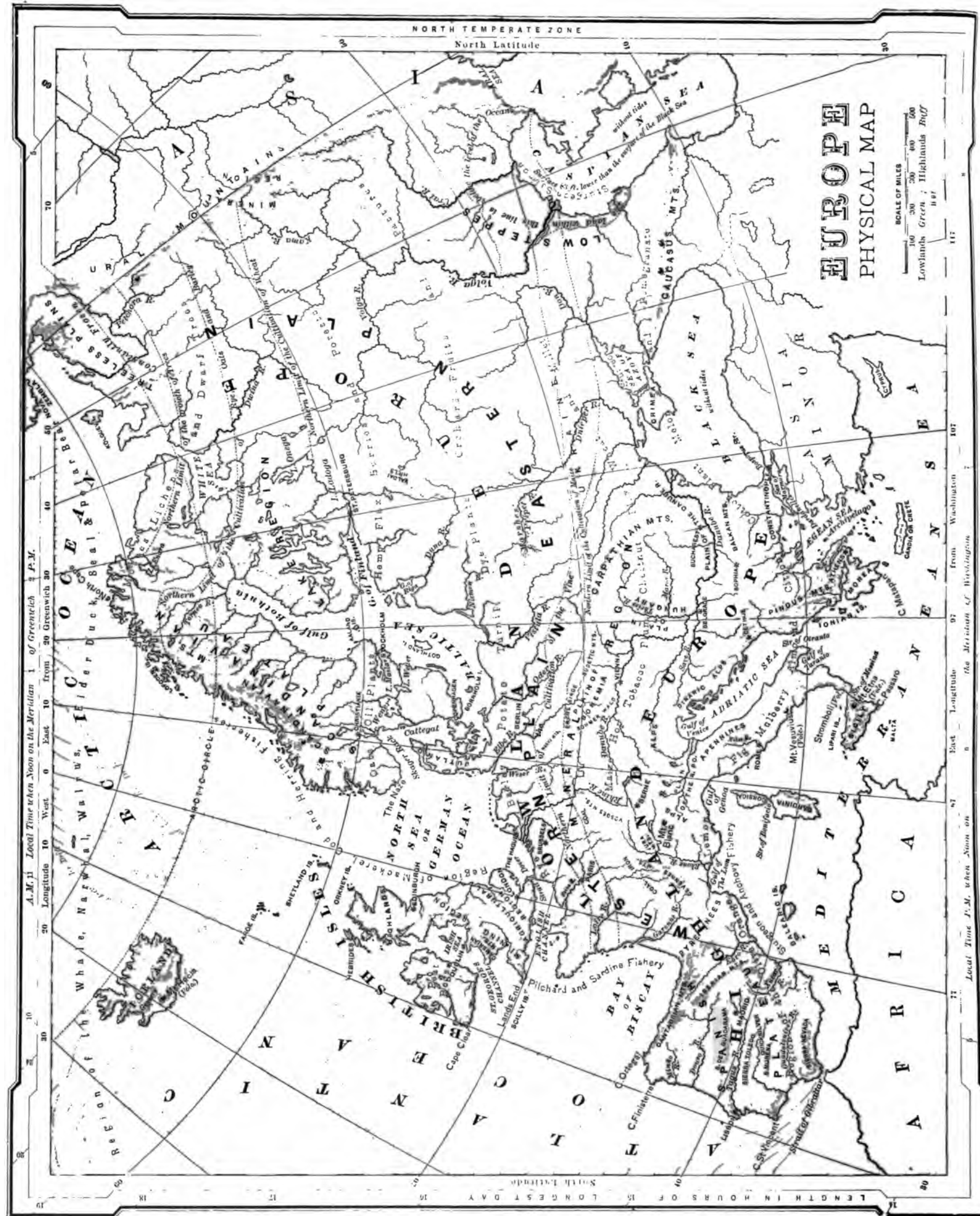
SUPPLEMENTARY NOTES.

History.—The mainland of South America was discovered by Columbus on his third voyage, in 1498. The part of the coast at which he landed was near the mouth of the Orinoco River. The brilliant success of Cortez in the conquest of Mexico incited other Spanish adventurers to similar enterprises, through which gold and glory might be gained. Among these was Pizarro, who accomplished the conquest of Peru, then inhabited by people who had attained a considerable degree of civilization. Brazil, occupied by the Portuguese in 1549, fell successively under the dominion of Spain and Holland, but was finally recovered by Portugal in 1564. In the mean while, nearly the whole of the northern and western parts of South America had been overrun by the Spaniards. Early in the present century the Spanish colonies of South America threw off the yoke of the mother-country, and became independent republics. Brazil, formerly belonging to Portugal, in 1822 was proclaimed an independent empire, and in 1889 became a federal republic.

Social Condition.—In civilization, the South-American countries occupy a secondary place. Among the masses of the population, education is little diffused; but there are numerous schools for the wealthier classes, and the secondary or higher education is well provided for. In some of the republics, political changes are frequent,—a fact that greatly retards the progress of these states. There are but few manufactures in the South-American countries; but they supply the world with immense quantities of coffee, sugar, cotton, tobacco, caoutchouc, cattle products, dye-woods, drugs, spices, and fruits. The means of interior communication are extremely rude. In the Andes countries, transportation is effected almost entirely by pack-animals. Recently, however, considerable progress has been made in railroad construction in various parts of South America, and there are now one or more railroads over the Andes.

Among the characteristic and most valuable products of South America may be mentioned the diamond, which is extensively mined in Brazil by the process of washing, as shown in the cut, and the digging of guano, immense deposits of which are found on the Chincha Islands off the coast of Peru.

The Isthmus and Cape Horn.—These two extremes of South America possess a peculiar interest. The Isthmus of Panama forms here the narrow barrier between the Atlantic and Pacific oceans, and in consequence of this obstacle the world's maritime commerce is required to perform the prodigious circumnavigation of the continent, a distance of ten thousand miles. Various projects of cutting an inter-oceanic canal across the isthmus engage public attention. In the mean time communication is had by a railroad—perhaps the most important short railroad in the world—from Panama to Aspinwall, known commercially as Colon, the Spanish form of the name Columbus. Cape Horn Island, or Cape Horn, is a precipitous rock forming the southernmost of the Tierra del Fuego Islands. This southern extremity of South America is a gloomy region of fogs, rains, and storms.



EUROPE PHYSICAL MAP

SCALE OF MILES
0 100 200 300 400 500
Lowlands Green ; Highlands Buff

A.M. 11 Local Time when Noon on the Meridian 1 of Greenwich 4 P.M.

Longitude 0 East 10 West 20 from Greenwich 30
Longitude 0 East 10 West 20 from Washington 30

NORTH TEMPERATE ZONE
North Latitude

LENGTH IN HOURS OF LONGEST DAY
15 16 17 18 19

DESCRIPTION.

[Area, 3,942,500 square miles. Population, 360,500,000.]

I. SITUATION, EXTENT, AND OUTLINE.

1. **Situation and Extent.**—Although loosely called a *continent*, Europe is really a western peninsula of the Eastern Continent, Asia being the main continental mass.

It is the smallest of the grand divisions, its area being about the same as that of the United States. It measures about 2,500 miles from north to south, and nearly 3,500 miles in its greatest extent east and west.

2. **Outline.**—The outline is exceedingly



irregular, being marked by numerous projections of the land, and inbreakings of the sea. These give to Europe an extent of coast-line, which, in proportion to its area, is much greater than that of any other grand division.

The length of its coast is about 20,000 miles, or one linear mile of coast for every 190 square miles of surface.

II. SURFACE AND DRAINAGE.

3. **Natural Divisions.**—The surface of Europe is naturally divided into two parts,—Lowland Europe in the north-east, and Highland Europe in the south-west.

A diagonal line of mountain-ranges, extending from south-east to north-west (Caucasus, Carpathians, and the mountains of Central Germany), forms the general dividing-line between the mountainous and the level portions of Europe.

4. **Lowland Europe** is a great plain extending from the Arctic Ocean to the Caucasus Mountains and the Black Sea, and westward from the Ural Mountains to the Bay of Biscay. It is divided into the Eastern Plain and the Western Plain.

The Eastern Plain nearly coincides with Russia; the Western Plain is occupied by northern Germany, Denmark, Holland, Belgium, northern France, and is prolonged into Great Britain.

5. **The Rivers of the Eastern Plain** are the longest in Europe, though most of them are commercially of far less importance than those of western Europe.



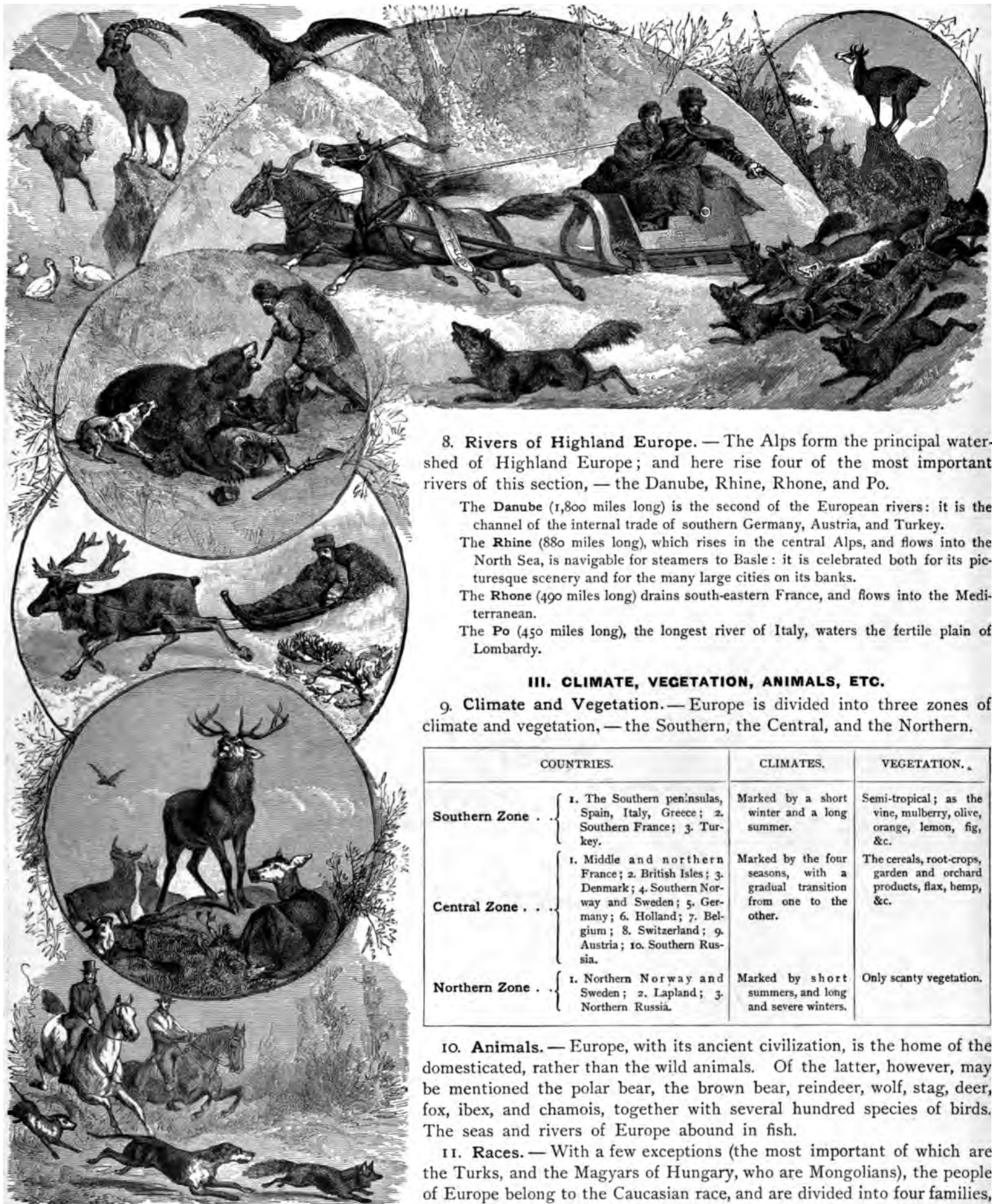
The three largest are the Volga (over 2,000 miles) and the Dnieper and the Don (each about 1,000 miles).

In the north-western part of the Eastern Plain is a region of great lakes, including lakes Ladoga and Onega, the largest in Europe.

6. **Highland Europe** has a varied surface of mountain, valley, and plain.

7. **The main axis** is formed by the Alps, which extend from the Gulf of Genoa in a curve around Northern Italy, and eastward to the Adriatic. The Balkan Mountains, a direct continuation of the Dinaric Alps, prolong the main axis eastward to the Black Sea.

The Alps average over two miles in height; and Mount Blanc, the loftiest elevation in Europe, has a height of 15,784 feet.



ANIMALS OF EUROPE.

8. **Rivers of Highland Europe.** — The Alps form the principal watershed of Highland Europe; and here rise four of the most important rivers of this section, — the Danube, Rhine, Rhone, and Po.

The **Danube** (1,800 miles long) is the second of the European rivers: it is the channel of the internal trade of southern Germany, Austria, and Turkey.

The **Rhine** (880 miles long), which rises in the central Alps, and flows into the North Sea, is navigable for steamers to Basle: it is celebrated both for its picturesque scenery and for the many large cities on its banks.

The **Rhone** (490 miles long) drains south-eastern France, and flows into the Mediterranean.

The **Po** (450 miles long), the longest river of Italy, waters the fertile plain of Lombardy.

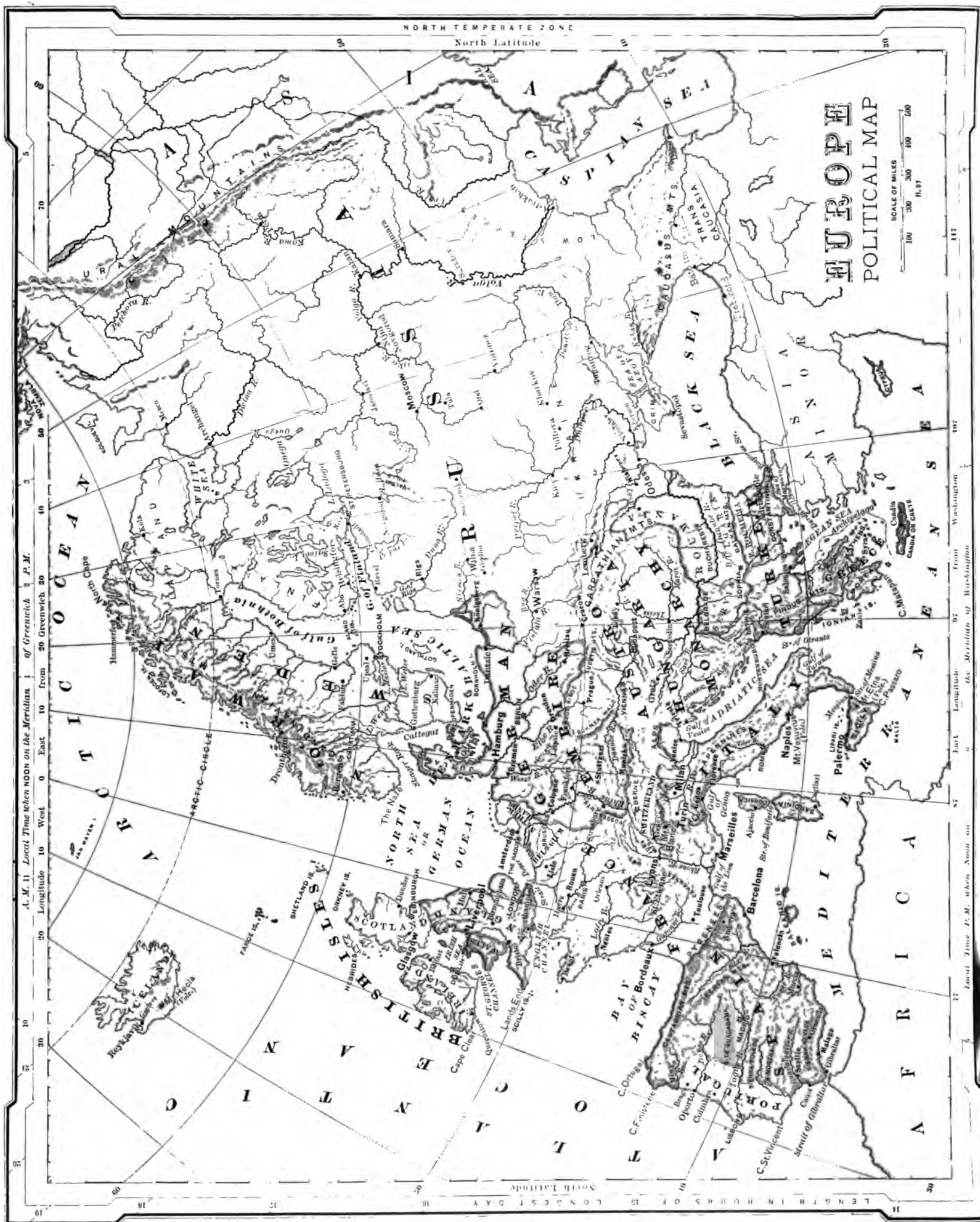
III. CLIMATE, VEGETATION, ANIMALS, ETC.

9. **Climate and Vegetation.** — Europe is divided into three zones of climate and vegetation, — the Southern, the Central, and the Northern.

COUNTRIES.	CLIMATES.	VEGETATION.
Southern Zone . { 1. The Southern peninsula, Spain, Italy, Greece; 2. Southern France; 3. Turkey.	Marked by a short winter and a long summer.	Semi-tropical; as the vine, mulberry, olive, orange, lemon, fig, &c.
Central Zone . . { 1. Middle and northern France; 2. British Isles; 3. Denmark; 4. Southern Norway and Sweden; 5. Germany; 6. Holland; 7. Belgium; 8. Switzerland; 9. Austria; 10. Southern Russia.	Marked by the four seasons, with a gradual transition from one to the other.	The cereals, root-crops, garden and orchard products, flax, hemp, &c.
Northern Zone . { 1. Northern Norway and Sweden; 2. Lapland; 3. Northern Russia.	Marked by short summers, and long and severe winters.	Only scanty vegetation.

10. **Animals.** — Europe, with its ancient civilization, is the home of the domesticated, rather than the wild animals. Of the latter, however, may be mentioned the polar bear, the brown bear, reindeer, wolf, stag, deer, fox, ibex, and chamois, together with several hundred species of birds. The seas and rivers of Europe abound in fish.

11. **Races.** — With a few exceptions (the most important of which are the Turks, and the Magyars of Hungary, who are Mongolians), the people of Europe belong to the Caucasian race, and are divided into four families, — the Celtic, Germanic or Teutonic, Græco-Roman, and Slavic.



POLITICAL EUROPE.



QUESTIONS ON THE POLITICAL MAP.

Islands. — *In what direction is it from the nearest land? By what waters surrounded?*

Lofoden Islands? Cyprus? Iceland? Sardinia? British Isles? Corsica? Faroe Islands? Sicily? Crete?

Peninsulas. — *From what country does it project? Into what water, or between what waters?*

Crimea? Spain and Portugal? Denmark? Norway and Sweden? Greece? Italy?

Capes. — *Where is it? Into what water does it project?*

North? St. Vincent? Clear? Matapan? Finisterre? The Naze?

Mountains. — *Where are they?*

Ural? Scandinavian? Pyrenees? Carpathian? Alps? Apennines?

Seas, Gulfs, and Bays. — *Where is it?*

White? Black? North? Baltic? Irish? Adriatic? Gulf of Genoa? Of the Lion? Archipelago? Bay of Biscay?

Straits and Channels. — *Between what lands? What waters does it connect?*
Gibraltar? Bosphorus? Dover? Cattegat? English Channel? Dardanelles?

Rivers. — *Where does it rise? Through what countries, and into what body of water, does it flow?*

Rhine? Volga? Don? Danube? Po? Rhone? Dwina? Dnieper? Elbe? Vistula?

Lakes. — *Where is it? What is its outlet?*

Ladoga? Onega? Peipus? Wener? Wetter?

Countries. — *Where is it? How bounded? What is the capital?*

England? Scotland? Ireland? France? Switzerland? German Empire? Austro-Hungary? Norway? Sweden? Denmark? Netherlands? Belgium? Spain? Portugal? Italy? Turkey? Greece?

Cities. — *In what part of what country?*

Rome? Athens? Constantinople? Liverpool? Hamburg? Warsaw? Moscow? Glasgow? Gottenburg? Archangel? Odessa? Bremen? Hammerfest? Lyons? Belfast? Bucharest?

REFERENCE TABLE OF EUROPEAN COUNTRIES, 1890.

NAMES.	AREA.	POPULATION.	CAPITALS.	LARGEST CITY, AND POPULATION.	FORM OF GOVERNMENT.
	Square Miles.				
Great Britain and Ireland .	121,483	37,888,153	London.	London (4,433,000).	Constitutional monarchy.
France	207,116	38,218,903	Paris.	Paris (2,537,000).	Republic.
Switzerland	16,192	2,933,334	Berne.	Zurich (152,000).	Republic.
German Empire	209,995	49,424,135	Berlin.	Berlin (1,667,000).	Constitutional monarchy.
Netherlands	12,742	4,558,095	The Hague.	Amsterdam (494,000).	Constitutional monarchy.
Belgium	11,374	6,093,798	Brussels.	Antwerp (268,000).	Constitutional monarchy.
Luxemburg	999	211,088	Luxemburg.	Luxemburg (20,000).	Constitutional monarchy.
Austro-Hungary	261,318	42,630,650	Vienna.	Vienna (1,365,000).	Constitutional monarchy.
Russia	2,198,487	109,923,530	St. Petersburg.	St. Petersburg (1,267,000).	Absolute monarchy.
Sweden and Norway	299,572	6,773,585	Stockholm.	Stockholm (280,000).	Constitutional monarchy.
Denmark	14,780	2,172,205	Copenhagen.	Copenhagen (313,000).	Constitutional monarchy.
Spain	191,994	17,246,688	Madrid.	Madrid (500,000).	Monarchy.
Portugal	34,508	4,306,554	Lisbon.	Lisbon (301,000).	Constitutional monarchy.
Italy	110,657	30,158,408	Rome.	Naples (530,000).	Constitutional monarchy.
Greece	25,143	2,217,000	Athens.	Athens (112,000).	Constitutional monarchy.
European Turkey	105,234	8,907,375	Constantinople.	Constantinople (874,000).	Absolute monarchy.
Roumania	50,589	5,000,000	Bucharest.	Bucharest (232,000).	Constitutional monarchy.
Servia	18,576	2,157,477	Belgrade.	Belgrade (59,000).	Constitutional monarchy.
Montenegro	3,506	200,000	Cetinje.	Podgoritz (7,000).	Constitutional principality.
Bulgaria	24,387	2,193,434	Sophia.	Sophia (36,000).	Semi-ind. constit. monarchy.
Eastern Roumelia	12,935	960,941	Philippopolis.	Philippopolis (47,000).	Semi-ind. constit. monarchy.

QUESTIONS ON THE MAP.

Situation. — Between what two parallels and what two meridians do the British Isles lie? What is the longitude of Greenwich, reckoning from Washington as prime meridian? What separates England from France? What is the latitude of London?

England. — Bound England. What waters separate it from Ireland? What estuary (*firth*) between England and Scotland, on the west coast? What part of England is drained by the Thames River? What rivers flow into Bristol Channel? On what river is Liverpool? Describe the Tyne, the Humber, the Ouse, the Avon. What mountains form a partial boundary between England and Scotland? Which parts of England are mountainous? Name any ranges. What coast-land in the southern part? What two large islands in the Irish Sea? Where is London? Where is Liverpool? What city about thirty miles east of Liverpool? Where is Sheffield? Birmingham? Bristol? Newcastle? Oxford?

Wales. — Bound Wales. What bay on the west? What channel south? What mountain-chain occupies most of Wales? Name a peak. What island is separated from Wales by Menai Strait? Where is Merthyr-Tydvil? Swansea? Cardiff?

Scotland. — Bound Scotland. What separates it from Ireland? What is the general character of the coast? Name the most important estuaries (*firths*) on the east coast. On the west coast. What group of islands west? What groups north? What mountain-range toward the central part of Scotland? Where is Ben Lomond? Ben Nevis? Where is the River Clyde? The Tweed? Locate Edinburgh. Glasgow. Aberdeen. Dundee.

Ireland. — What waters divide Ireland from the island of Great Britain? Which is nearer the United States, — Ireland or England? Where is Donegal Bay? What bay in the east-central part? Through what lakes (*loughs*) does the Shannon flow? Where is Cape Clear? Bantry Bay? Galway Bay? What two lakes in the north of Ireland? Where is Limerick? Dublin? Cork? Belfast? Valentia Island is the terminus of one of the Atlantic telegraph cables: where is that island? Where is Queenstown?

GREAT BRITAIN AND IRELAND.

1. **The United Kingdom** of Great Britain and Ireland includes the island of Great Britain (in which are comprised England, Scotland, and Wales), the island of Ireland, and numerous small adjacent islands.

2. **British Empire.** — The name British Empire is applied to the Kingdom of Great Britain and Ireland, and its numerous colonies and possessions in various parts of the world. One-sixth of the entire human race, scattered over nearly one-sixth of the globe, is under British rule.

The most important of the British colonies are the Dominion of Canada, Australia, and British India.

3. **Natural Wealth.** — Its vast deposits of coal, iron, and other minerals, its productive soil, its extent of seacoast, its great number of good harbors, and its central situation for the commerce of the world, are the principal sources of the wealth and power of Great Britain.

4. **Manufactures.** — Great Britain's immense supply of coal and iron has rendered that country, since the invention of the steam-engine and steam-machinery, the greatest of manufacturing countries. The chief manufactures are those of cotton, wool, silk, iron, leather, and earthenware.

5. **Agriculture.** — Great attention is paid to scientific agriculture, the principal crops being wheat, oats, barley, potatoes, hops, and garden and orchard products. The agricultural produce, though considerable in amount, is not sufficient to feed the population, and the deficiency has to be yearly supplied by the importation of breadstuffs from abroad.

6. **Commerce.** — Commercially, Great Britain ranks as the foremost of countries. Its trade consists largely in exchanging manufactured goods for cotton, wool, and other raw material, and for food-staples and articles of luxury.

To carry on this vast exchange, more than 16,000 merchant vessels, manned by about 242,000 sailors, are employed.

7. **Government.** — Great Britain is a constitutional monarchy. The laws are made by Parliament, which is composed of the House of Lords and the House of Commons. The members of the former body hold their seats by right of birth; the members of the latter are elected as representatives of the various counties and towns of the United Kingdom.

8. **Cities.** — In England the six largest cities are London, Liverpool, Manchester, Birmingham, Leeds, and Sheffield.

London, the capital of the kingdom, and the metropolis of the British Empire, is the largest and wealthiest city on the globe, and is the financial center of the world's commerce. It covers 688 square miles. Manchester, at the terminus of a ship canal, is the leading city of the world in the manufacture of cotton goods. Liverpool ranks in commerce as the second city, and is the chief seaport for the American trade: its magnificent docks extend many miles, and contain the ships of every nation. Birmingham is the greatest city of the world for the manufacture of engines, machinery, and hardware. Leeds is the greatest woolen manufacturing city; it also makes thread, glass-ware, steam-engines, and machinery. Sheffield is noted for its manufacture of cutlery, and steel and plated ware.

In Wales, Cardiff, the largest, and leading commercial city, and Swansea, noted for its smelting, are the two chief places.

In Scotland, Glasgow is the largest city and the chief manufacturing and commercial center. Edinburgh is the literary metropolis. Dundee and Aberdeen rank next in importance.

In Ireland, Dublin is the capital, and Belfast the largest city, the latter noted for its extensive manufacture of linen goods, and for iron ship-building.

REFERENCE TABLE OF THE PRINCIPAL BRITISH COLONIES.

In Europe .	{ Gibraltar. Malta.	In America .	{ Dominion of Canada. Newfoundland. British Honduras. Jamaica. Trinidad. Barbados. The Bahamas. The Bermudas. British Guiana. Falkland Islands.
In Asia . . .	{ Hindostan. Burma. Ceylon. Hongkong. Straits Settlements. Aden. Singapore.		
In Africa . .	{ Cape Colony. Sierra Leone. Gold Coast. Natal. St. Helena. Mauritius.	In Oceanica .	{ Australia. Tasmania. New Zealand.

Dominion of Canada.
Newfoundland.
British Honduras.
Jamaica.
Trinidad.
Barbados.
The Bahamas.
The Bermudas.
British Guiana.
Falkland Islands.

Australia.
Tasmania.
New Zealand.

FRANCE AND SWITZERLAND.



QUESTIONS ON THE MAP.

FRANCE.

Situation.—On how many borders has France a *natural* boundary? What is this boundary on the north? The west? The south? What country north-east of France? What countries east? Is most of France east, or west, of the meridian of Greenwich? Measure by the scale of miles the greatest extent of France from north to south. From east to west.

Outline.—What waters wash the north-western and western coasts of France? Of what ocean are these arms? What sea on the south? What capes (or points) project from the north-western and western coasts? From the southern coast? What group of islands off the north-west coast? To what power do these islands belong? *Ans.* To Great Britain. What large island in the Mediterranean belongs to France? *Ans.* Corsica. In what town in this island was Napoleon Bonaparte born? *Ans.* In Ajaccio.

Mountains.—What mountains border France on the south? What small republic in the Pyrenees? *Ans.* The republic of Andorra. What mountain-range between France and Switzerland? Between France and Italy? What peak just south of latitude 46° is on the border line between France and Italy? For what is Mont Blanc remarkable? *Ans.* It is the loftiest summit of the Alps (15,784 feet). What other noted mountain south-east of Mont Blanc? What mountain-ranges are in the interior of France?

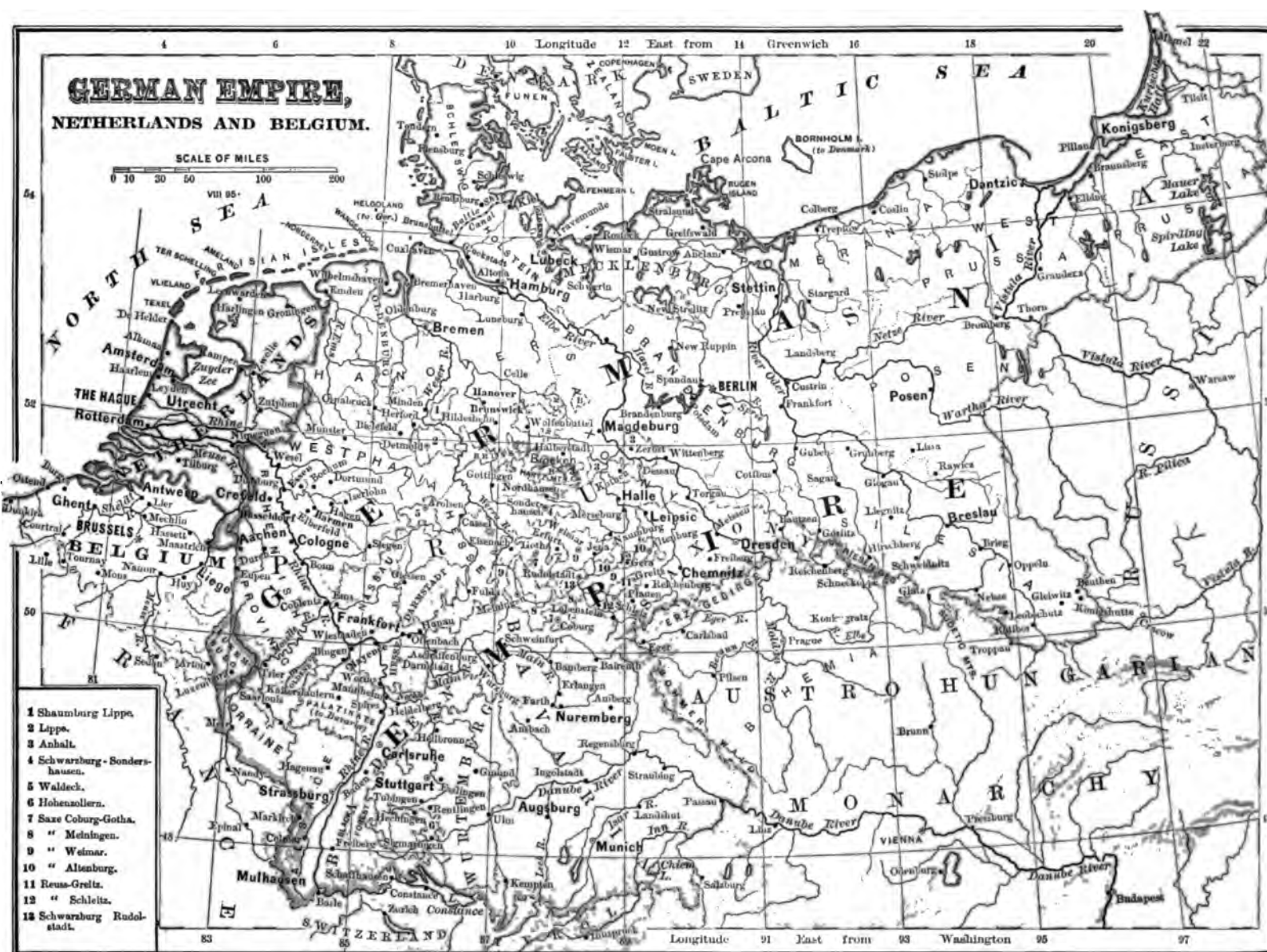
Rivers.—What large river flows into the English Channel? What are its principal tributaries? What two large rivers flow into the Bay of Biscay? What large river flows into the Gulf of the Lion? (Describe each of these rivers by stating *where it rises, in what direction, and into what body of water, it flows.*)

Cities.—What cities are on the Seine River? Which is the capital? What city is its port? Where are Cherbourg and Brest, important naval stations? Where is Toulon, the great naval dockyard of France? What large city on the Loire? On the Garonne? On the Rhone? What seaport on the Gulf of the Lion? What large city near the Belgian border? What large city south-west of Lyons?

SWITZERLAND.

What countries surround Switzerland? What can you say of its seacoast? What is the nature of its surface? What great mountain-system covers most of Switzerland? What mountain-range on its north-western border? What noted mountain-peak in the central part? In the south-western part? What lake on the north-eastern border? What lake on the south-western border? Name three other Swiss lakes. What two large rivers rise in Switzerland? Describe their course. What is the capital? What city on Lake Geneva? Locate Basle. Zurich.

GERMAN EMPIRE, NETHERLANDS, AND BELGIUM.



QUESTIONS ON THE MAP.

GERMAN EMPIRE.

General.—What natural and political boundaries has Germany on the north? What country east? What two countries border it on the south? What three countries border it on the west? What mountains separate Germany from Bohemia? What mountains in the south-western part? In the central part? What two large rivers flow into the Baltic Sea? What large river flows into the North Sea within the limits of Germany? What canal unites the North Sea with the Baltic? What large river flows into the North Sea beyond the limits of Germany? Name two tributaries of the Rhine in Germany. What is the largest river of Southern Germany? Where is Berlin, the capital of the Empire? What is its largest southern boundary?

The States.—How much of Germany seems from the map to be occupied by Prussia? What is its eastern boundary? Its western? What state of the German Empire, besides Prussia, borders on the Baltic Sea? What on the North Sea? State the situation of the three "Free Cities" of Germany,—Lubeck, Hamburg, Bremen. Where is the kingdom of Saxony? The kingdom of Bavaria? The kingdom of Wurtemberg? In what part of Germany is the province of Alsace-Lorraine? Which of the German states

border on Belgium? Between or through what German states does the Rhine flow?

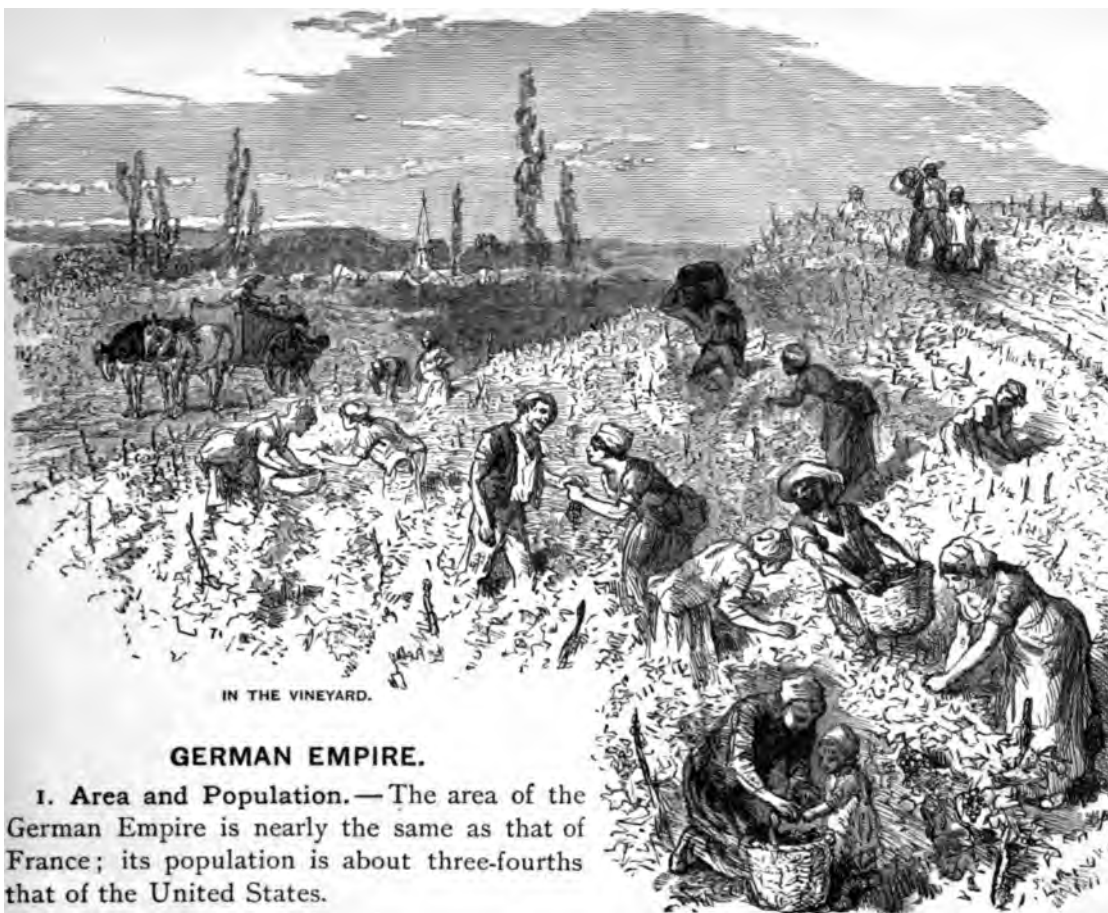
Cities.—On what river is Berlin? What city at the mouth of the Vistula? What two large cities on the Oder? What cities are on the Elbe? and in which state is each? What is the capital of Bavaria? What other large place in Bavaria? What large city on the River Main? What five large cities on the Rhine, and in which state is each?

NETHERLANDS.

What natural boundary have the Netherlands on the north and west? What country east? South? What arm of the North Sea breaks into the Netherlands? What large river traverses the Netherlands? What is the principal tributary of the Rhine in this kingdom? What city is the capital? What city on the Zuyder-Zee? What city south-west of Amsterdam? South-east?

BELGIUM.

Bound Belgium. Which part is mountainous? What two rivers in Belgium? What is the capital? What city north of Brussels? What two cities west of Antwerp? What city south-east of Brussels?



GERMAN EMPIRE.

1. **Area and Population.**—The area of the German Empire is nearly the same as that of France; its population is about three-fourths that of the United States.

2. **Its Composition.**—The German Empire is a confederation of twenty-six states, the chief of which are the kingdoms of Prussia, Saxony, Bavaria, and Wurtemberg.

3. **Government.**—The government of the empire is a constitutional monarchy. The imperial Legislature consists of two bodies,—the Federal Council (*Bundesrath*) and the Reichstag; the former consisting of members appointed by the governments of the individual states, the latter of members elected by universal suffrage.

The King of Prussia is German Emperor (*Deutscher Kaiser*).

4. **Natural Wealth.**—The natural wealth of Germany is found in its productive soil in the plains and valleys, its extensive forests in the mountain regions, and its rich supply of iron, coal, copper, zinc, and other minerals.

5. **The leading industries** are agriculture, manufacturing, mining, and commerce.

Agriculture.—Tilling the soil forms the occupation of three-fourths of the German people. The principal crops are rye (the grain most used by the people), wheat, oats, and potatoes; the vine grows in the Rhine provinces; and tobacco, flax, hemp, and beet-root are cultivated in many districts.

Manufactures.—In manufactures Germany is behind England and France. The chief manufacturing industries are the making of woolen, linen, and leather goods, of wine and beer, and of paper, glass-ware, etc.

Commerce.—Germany has considerable foreign commerce, largely with the United States and England. Wheat, wines, wool, and manufactures are the principal exports. The chief seaports are Hamburg and Bremen.

6. **Cities.**—The principal cities of the German Empire are Berlin, the political and literary capital; Leipsic, noted for its annual fairs and great book-trade; Breslau, the greatest wool-market in Europe; Dresden, the capital of Saxony, and Munich, the capital of Bavaria, celebrated for their art-galleries; Cologne, the chief commercial city of the Rhine Provinces;

Frankfort, the depot of inland trade; Dantzic, the leading grain port; and Hamburg and Bremen, great shipping and commercial centers.

NETHERLANDS.

1. **Situation.**—The kingdom of the Netherlands, commonly called Holland, occupies the lowest part of the Western Plain.

Much of the land was formerly overflowed by the sea at high tide; but it has been reclaimed by building embankments called dikes.

2. **Foreign Possessions.**—Holland has extensive colonial possessions, the population of which is six times that of the mother-country.

The principal foreign possessions are, in the East Indies, Java and most of the Moluccas, with parts of Sumatra, Borneo, and Celebes; in the West Indies, Curaçoa and St. Eustatius; in South America, Dutch Guiana. These possessions, especially those in the East Indies, have greatly promoted the foreign trade of Holland.

3. **Occupations.**—Farming and dairying, the fisheries, manufacturing and commerce, are the leading occupations.

Commerce.—Holland has fine commercial facilities, arising from its position at the mouth of the Rhine and its harbors on the North Sea. The internal trade is carried on mainly by means of canals, which run through the principal streets of the cities, and extend in a network over the whole country. The foreign commerce is very large.

4. **Population.**—The people of Holland belong to the Teutonic race, and the word "Dutch," the name by which they are known, signifies *Teutonic*.

5. **Government.**—The government is a limited monarchy.

6. **Cities.**—Amsterdam is the chief commercial city of Holland. Rotterdam is the second city in population and trade. The Hague is the seat of government.

BELGIUM.

1. **Occupations.**—Belgium has rich mines of coal and iron, which are extensively worked; hence it is naturally a manufacturing country. Agriculture is in a high state of perfection.

2. **Commerce.**—The principal exports are agricultural produce and manufactured goods, as lace, lawn, fine linens and cambrics, woolen and cotton goods, carpets, cutlery, and iron-ware.

3. **Inhabitants.**—The Belgians are, in race, language, and character, intermediate between the Dutch and the French.

4. **Government.**—The government is a limited monarchy.

5. **Cities.**—The chief cities are Brussels, the capital, noted for its manufacture of laces, carpets, etc.; Antwerp, the commercial metropolis; Ghent, a manufacturing city; Liege, which has extensive coal-mines and iron-works; and Bruges, an important manufacturing and commercial point.

AUSTRO-HUNGARIAN MONARCHY.



QUESTIONS ON THE MAP.

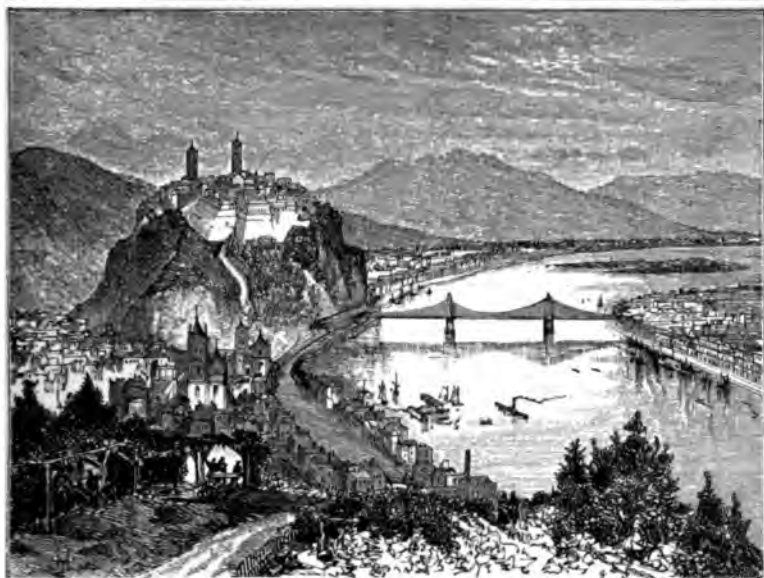
What two countries north of the Austro-Hungarian monarchy? What principalities border it on the east and south? *Ans.* Roumania and Servia. What natural boundary has the Austro-Hungarian monarchy on the south? What natural boundary on the south-west? What countries border it on the west? What extensive division occupies the central part of this monarchy? What important division borders Hungary on the west? What two states north of Austria? What states south of Austria? What south of Hungary? East? North? What mountain-ranges surround Bohemia? What mountain-range north of Hungary? What mountains south of Transylvania? West? North-east of Dalmatia? What three divisions in the west are exceedingly mountainous? What great river traverses this monarchy? Where are the head-streams of the Danube? Which tributary of the Danube forms a partial boundary of this monarchy? What is the principal tributary from the north? From the west? What river forms a partial boundary on the north? Where is the Dneister River? What city of Austria is the capital of this monarchy? What and where is the capital of Hungary? Locate Prague. Lemberg. Gratz. Brunn. Szegedin. Cracow. What is the principal seaport?

DESCRIPTION.

1. **Its Composition.** — The Austro-Hungarian Monarchy, commonly called the Austrian Empire, is a bipartite state, consisting of the kingdom of Austria and the kingdom of Hungary.
2. **Government.** — Each of the two countries has its own government; but they are united by the fact that the Emperor of Austria is King of Hungary.
3. **Population.** — The people of the various parts of the Austrian Empire differ widely in race, language, manners, and religion.

About one-half of the population belong to the Slavonic race, and one-fifth to the Germanic; one-sixth are Magyars; and the rest are made up of Roumanians, Jews, Gypsies, Greeks, etc. The number of languages and dialects spoken in Austria exceeds twenty; but German and Hungarian are the official languages.

4. **The leading industries** are agriculture, mining, and manufacturing.



BUDAPEST—CAPITAL OF HUNGARY.

Agriculture.—Wheat, maize, and other cereals, together with the vine, flax, hemp, and tobacco, are largely grown. The plains east of the Danube support great herds of horses, cattle, and sheep.

Mining.—Platinum excepted, all metals abound in Austria,—gold, silver, quicksilver, copper, tin, lead, and iron. Coal-beds of vast extent are found. Of rock-salt there is a bed several hundred miles in length in Galicia, of which only a small portion is worked at a gigantic mine near Cracow.

Manufactures.—The principal manufactures are cotton, linen, and woolen goods, iron-ware, chemical preparations, and glass-ware. Hungary produces more wine than any other country except France.

5. Commerce.—The principal exports are wheat, wool, wine, linen, cotton, and leather goods, glass-ware and iron-ware.

Two-thirds of the whole commerce is with Germany. As Austria has but little seacoast, her direct foreign trade is limited. The Danube is the great channel for internal trade.

6. Cities.—Vienna, the capital and largest city, is the chief seat of manufactures and domestic commerce. Budapest, consisting of the old city of Buda on the right and Pest on the left of the Danube, is the capital and largest city of Hungary. Prague, in Bohemia, ranks as the third city in size in the empire. Trieste is the chief seaport.

RUSSIA IN EUROPE.

1. European Russia comprises about one-half of Europe, and occupies most of the Eastern Plain.

2. Russian Empire.—The Russian Empire is, next to the British Empire, the largest dominion in the world. It includes, besides its European possessions, more than one-third of Asia.

The Russian Empire has an area of about 8,600,000 square miles, or more than double that of the United States. Its population in 1897 was 129,211,113. The Russians of Europe belong chiefly to the Slavonic race.

3. Occupations.—The majority of the population of Russia are devoted to agricultural pursuits, and dwell in villages spread thinly over the vast area of the empire. The only articles in the manufacture of which Russia can successfully compete with other countries are iron, leather, soap, sail-cloth, cordage, and tar.

4. Commerce.—The chief articles of export are wheat and other grains, timber, flax and flaxseed, wool, hemp, and cattle.

The most important customer which Russia has is Great Britain, and the chief export to that country is wheat. The imports come mainly from Great Britain and Germany. There is also with China a large overland trade, the principal item in which is tea.

The inland trade is carried on mainly at great annual fairs: that at Nijni Novgorod is the largest in the world.

5. Government.—The government is an absolute monarchy, under an emperor called the Czar (a corruption of the name Cæsar), who is head both of Church and State.

6. Cities.—St. Petersburg, the capital, situated on a number of small islands in the Neva, is the metropolis of the empire. Moscow, formerly the capital, is the second city in size. Warsaw is the chief city of Polish Russia.

The principal seaports are Odessa on the Black Sea, the great southern emporium; Riga on the Baltic; and Cronstadt, the seaport of St. Petersburg, and the chief naval station.

SWEDEN AND NORWAY.

1. Their Relation.—Sweden and Norway, which are separate though adjoining countries, are united under one king.

2. Government.—The government of Sweden and Norway is a limited monarchy: each country has its own legislature.

In Sweden the legislative assembly is called the *Diet*; in Norway, the *Storting*.

3. Natural Wealth.—The natural wealth of Sweden and Norway is found in their mines, forests, and fisheries.

4. Commerce.—The principal exports of Sweden are timber, bar-iron, and grain; of Norway, timber and fish.

5. Cities.—Stockholm, the capital and largest city, is the principal seat of the foreign commerce. Gottenburg, next in size, is an important manufacturing and shipping point.

Christiania, the capital of Norway, is the chief seat of the foreign trade of that kingdom. Bergen, the second city, is the chief depot of the fisheries. Hammerfest is the most northern town in Europe.

DENMARK.

1. Description.—Denmark consists of the northern part of the peninsula of Jutland and of the adjacent islands at the entrance of the Baltic, the largest being Zealand and Fünen.

2. Industries.—Denmark is mainly an agricultural and grazing country; but many Danes are engaged in the fisheries, or in a seafaring life.

3. Population, etc.—The people of Denmark are of Teutonic origin, consisting of Danes, Germans, and Angles. The government is a limited monarchy.

4. Cities.—Copenhagen, on the island of Zealand, is the capital and chief commercial city. It is also noted for its great university and fine museum. Odense, on the island of Fünen, ranks second in importance.

Colonies.—The colonial possessions of Denmark include Iceland and Greenland (described under Danish America), together with several small islands in the West Indies.

SPAIN.

1. Natural Wealth.—Spain is rich in iron, lead, and quicksilver. It has a fertile soil, and a climate adapted to the growth of the vine, olive, orange, and fig.

2. Industries.—On the table-lands are pastured great herds of sheep, which produce large quantities of fine merino wool. The mulberry is extensively cultivated, and much silk is produced. The vine, also, is largely cultivated.

3. The chief exports are sherry-wine, wool, metals, fruits and dried fruits, silk, leather, and cork.



ST. PETER'S AT ROME.

4. **Cities.**—Madrid is the capital and largest city. Barcelona is the principal manufacturing and commercial city.

I. The **colonial possessions** of Spain are : the Balearic Isles, in the Mediterranean ; Ceuta, in Africa, opposite Gibraltar ; Fernando Po and Annabon, off the coast of Guinea ; the Canary Isles, in the Atlantic (which for administrative purposes are considered part of Spain) ; and numerous island groups in the Pacific.

II. **Gibraltar**, on a rock of the same name, belongs to the English, who have held it since 1704. This rocky fortress commands the entrance to the Mediterranean.

PORTUGAL.

1. **Industries.**—The leading pursuit in Portugal is the culture of the vine, from which port-wine is produced, and of the olive and semi-tropical fruits, such as oranges, lemons, and figs. The trade of Portugal is chiefly with Great Britain.

The single article wine constitutes more than two-thirds of the value of Portuguese exports to all countries. The other exports are cattle, cork, olive-oil, and oranges and lemons.

2. **Cities.**—Lisbon is the capital. Oporto is the chief seat of the trade in port-wine, to which it gives its name.

ITALY.

1. **Natural Wealth.**—The natural advantages possessed by Italy are a fertile soil finely adapted to the growth of semi-tropical productions, its extensive fisheries, valuable minerals, and admirable situation for commerce.

2. The **leading industries** are agriculture, manufacturing, and the fisheries.

Agriculture.—Wheat and the vine, olive, and mulberry are extensively cultivated throughout Italy. Oranges, lemons, figs, and other semi-tropical fruits, flourish in the southern part.

Manufactures.—The silk manufactures of Italy are the most important in Europe, and are one of the great sources of national wealth. Of the other manufactures, those of earthen-ware, straw goods, artificial flowers, olive-oil, and macaroni are of special importance.

The **coast fishery** employs large numbers of Italians. Tunny and anchovies are caught in immense quantities, and the latter are exported to all parts of the world.

3. **Exports.**—Among the characteristic exports of Italy are raw silk, olive-oil, wine and cordials, fruits, sulphur, and macaroni.

4. **Government.**—The government is a limited monarchy.

5. **Cities.**—Rome, the capital of Italy, is often called the "Eternal City." It was founded over twenty-five hundred years ago, and was for a thousand years the capital of the Roman power. Every part of Rome contains remains of temples, baths, tombs, arches, and columns that excite admiration by their massiveness and the beauty of their design. It is the residence of the Pope. The Church of St. Peter's is the finest building in the world. Naples, beautifully situated on the Bay of Naples, is the largest city. Milan is noted for its silk manufactures. Florence and Turin are famous for their museums of art. Genoa is an important commercial point. Venice is built on a hundred small islands, and is intersected by canals.

GREECE.

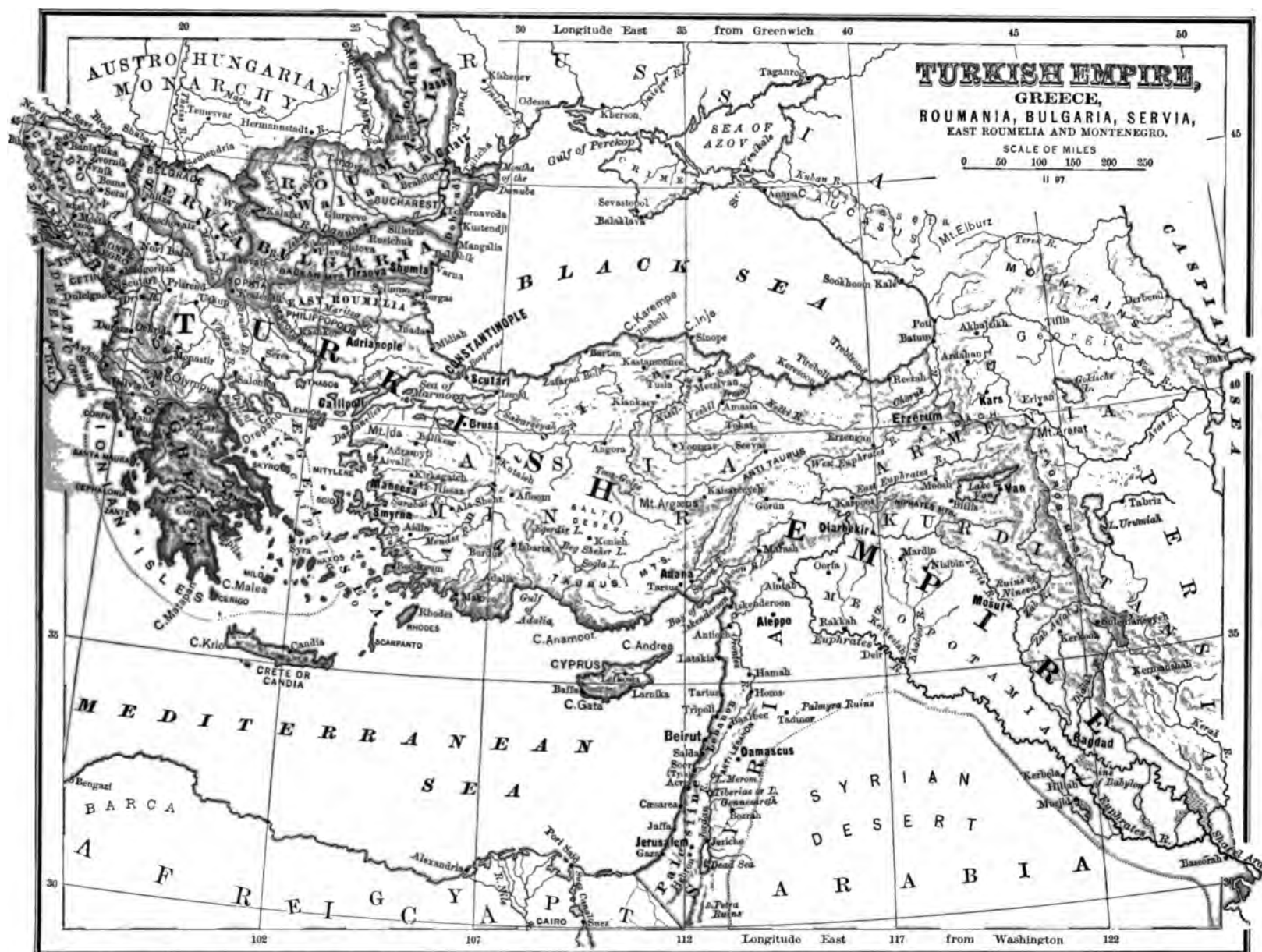
1. **Industries.**—A large part of the population is engaged in raising sheep and goats in the mountain districts ; agriculture is carried on in the rudest manner. In the "Isles of Greece" multitudes of sailors are trained.

2. **Exports.**—The leading exports are olive-oil, silk, honey, tobacco, currants, and other fruits.

3. **Cities.**—Athens is the capital and chief city. It is the residence of the king and court, has important educational institutions, and is a place of active local trade. Its seaport is the Piræus. Syra is the principal seat of commerce. Corfu and Zante are important cities.

I. In the time of the glory of Greece, Athens was the center of art and learning. It contained magnificent works of architecture, the ruins of which still exist. The most beautiful building was the Parthenon, which stood on the Acropolis, a considerable elevation in the city.

II. For several centuries previous to 1821 Greece was a part of the Turkish Empire : the Greeks then revolted, and after a long struggle succeeded, with the assistance of the European powers, in establishing their independence. Greece is now a monarchy.



QUESTIONS ON THE MAP.

European Turkey.—What two straits and what sea form the dividing line between European and Asiatic Turkey? What three seas on the east? What country south? What sea on the west? Name some islands in the Archipelago. What large island south? What mountain-range in Turkey north of Greece? What famous mountain east of the Pindus Range? What great city in European Turkey is the capital of the Turkish Empire? What city north-west of Constantinople? On the Dardanelles? Near the mouth of the Vardar River?

Roumania, Serbia, and Montenegro.—What two kingdoms north of European Turkey? *Ans.* Roumania and Serbia. Which two states are semi-independent? *Ans.* Bulgaria and East Roumelia. What great river with its tributaries drains these divisions? Name the capital of Roumania. Of Bulgaria. East Roumelia. Serbia. Montenegro.

EUROPEAN TURKEY.

1. European Turkey comprises the region from the Danubian Principalities southward to Greece.

2. Industries.—The soil is not extensively cultivated, and agriculture is carried on in a very rude manner. The raising of cattle and sheep is more general than the culture of the soil.

The Turks are not a manufacturing people, though they produce fine cotton and silk goods, and leather of a superior quality.

3. Commerce.—The commerce is considerable, but is mostly in the hands of foreigners. The chief exports are wool, tobacco, cotton, dried fruits, carpets, leather, horses, cattle, and hides.

4. Race, etc.—The Turks belong to the Mongolian type, and came from Asia in the fifteenth century. They are the ruling race, though they constitute but a small part of the population. The government is an absolute monarchy, and the emperor is styled the Sultan.

5. Cities.—Constantinople, the capital, on the Bosphorus, is one of the most finely situated of cities. Adrianople is the principal seat of the silk, cotton, and wool manufactures. Salonica is the second seaport in importance, and is noted for its cotton and leather manufactures.

BULGARIA AND EAST ROUMELIA.

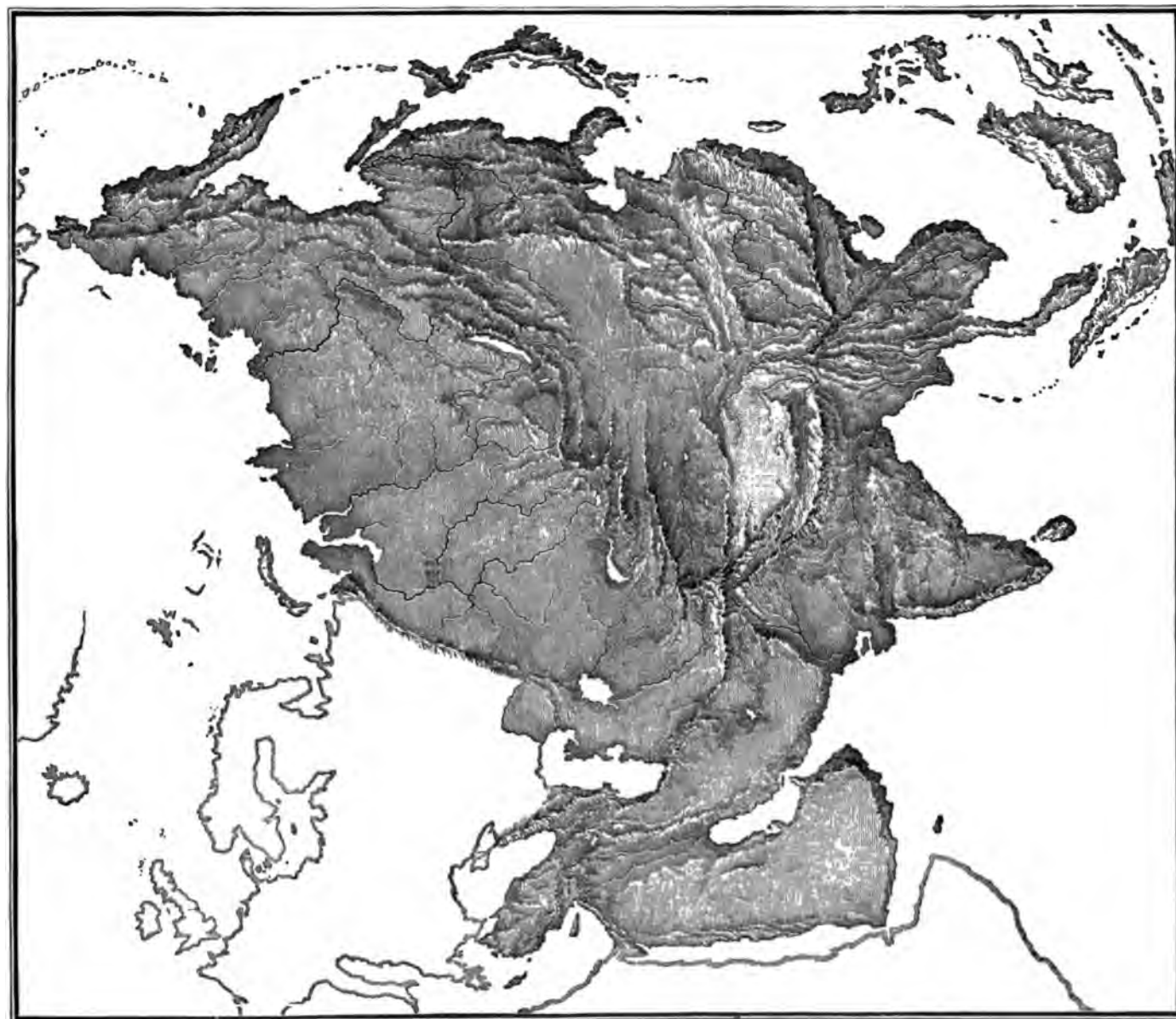
Bulgaria and East Roumelia, till the Berlin treaty (1878), formed parts of the Turkish Empire, but are now independent in internal organization, though they must pay tribute to the Sultan of Turkey.

ROUMANIA, SERBIA, AND MONTENEGRO.

Roumania, Serbia, and Montenegro were, till 1878, parts of the Turkish Empire, but are now independent sovereignties.



PHYSICAL ASIA.



PHYSICAL VIEW OF ASIA.

QUESTIONS ON THE PHYSICAL MAP.

- I. What great circle and what two zone circles cross Asia? In which zone is the greater part of Asia? In which zone is the northern part? The southern? What ocean north of Asia? What grand division of land east? What strait separates Asia from North America? What ocean east of Asia? South?
- II. Name six seas penetrating the eastern coast, which are arms of the Pacific Ocean. What great bay and sea are arms of the Indian Ocean? What two gulfs south-west of the Plateau of Iran? What gulf and sea between Africa and the Plateau of Arabia? What two border seas west of Asia? What interior sea in the western part of Asia? What isthmus connects Africa with Asia? What grand division of land is connected with Asia on the north-west? What is the most northerly cape of Asia? The most southerly cape of Continental Asia?
- III. What are the two great divisions of Asia as regards surface? What great plain in Lowland Asia? What smaller plain in this region? Where are the Steppes? The Tundras?
- IV. What small plateau in the western part of Highland Asia? What three great plateaus in Highland Asia? What smaller plateau north of the Plateau of Tibet? What plateau south of the Plateau of Mongolia? What mountain-range on the Plateau of Asia Minor? What ranges north of the Plateau of Iran? What ranges border the Plateau of Tibet? The Plateau of Mongolia? The Plateau of Turkestan? What two ranges in the north-eastern part of Highland Asia? In the south-eastern part? What is the loftiest mountain-system of Asia? *Ans.* The Himalaya Mountains. What is its highest peak? *Ans.* Mount Everest.
- V. What three great peninsulas in the southern part of Asia? Where is the Plain of Babylonia? Where are the Plains of India? What desert here? Name three deserts in the Plateau of Arabia. What waters partly surround the Plateau of Arabia? The Plateau of the Deccan? Indo-China?
- VI. What three great rivers drain the Plain of Siberia? What two flow into the Persian Gulf? What great river flows into the Arabian Sea? What two great rivers flow into the Bay of Bengal? What two drain the Plain of China? What river flows into the Channel of Tartary?
- VII. With what parallel does the line marking the northern limit of trees nearly coincide? Where is the line marking the northern limit of the cultivation of rice? What are the vegetable products of the central peninsula (India)? Of Ceylon? Of the Malay Archipelago? Of Indo-China? Of China? Of the Japan Islands? Of Arabia? What are the most important animals of Arabia? Of India? Of Indo-China? Of the Malay Archipelago? Of Highland Asia? Of Lowland Asia? Where are the salmon and sturgeon taken? Where are the pearl-fisheries? The whale-fisheries? Where is the principal mineral region of Asia? Name the chief minerals. Name the principal ocean currents flowing along the coasts of Asia.

DESCRIPTION.

[Area, 16,956,000 square miles.
Population, 823,156,000.]

I. SITUATION, EXTENT, AND OUTLINE.

1. **Situation.**—Asia forms the main continental mass of the Eastern Continent, Europe and Africa being merely great peninsulas.

2. **Extent.**—Asia is the largest of the grand divisions, comprising one-third of the land surface of the globe.

3. **Outline.**—The coast is deeply indented on every side, though not to the same degree as that of Europe.

II. SURFACE.

4. **Natural Divisions.**—The surface of Asia is naturally divided into three parts: Lowland Asia, Highland Asia, and the great southern peninsulas.

5. **Lowland Asia** is principally comprised in the great Plain of Siberia and the Plain of Turkestan. It extends from Bering Strait in a south-westerly direction to the low level of the Caspian Sea.

6. **Highland Asia** includes the vast region between Lowland and peninsular Asia, and extends from the Plateau of Arabia in the south-west to Kamchatka in the north-east.

7. **Its Character.**—In this belt are the loftiest mountain-chains and the most elevated plateaus on the globe. The great mass of Central Asia, comprising three-fifths of the whole, consists of high plateaus, intersected by

mountain-ranges, some of whose peaks rise to a height of five miles.

From the central plateaus the surface descends by a series of slopes to the vast Plain of Siberia on the north, the Plain of China on the east, and to the great peninsulas on the south.

8. **Mountain-Systems.**—The nucleus of the mountain-systems of Asia is on the Plateau of Thibet, called by the Orientals "the roof of the world." The principal mountain-chains radiating from this center are divided into four groups: (1) the Altai System; (2) the Hindoo Koosh; (3) the Himalayas; and (4) the Armenian Group.

The Altai System separates the Plain of Siberia from the Plateau of Mongolia.

The Hindoo Koosh, with its eastward extension the Kuen Lun Mountains, separates the Desert of Gobi from the Plateau of Thibet, and divides the Plain of Turkestan from the Plateau of Iran.

The Himalayas, from the extreme western point (where the Indus cuts through the system) to the Brahmaputra, are 2,000 miles in length, with an average breadth of nearly 200 miles. In the middle of the range rises the stupendous peak of Mount Everest (or Gaurisankar) 29,002 feet above the sea-level, with several others of slightly less elevation.

The Armenian Group, of which Mount Ararat is the culminating point, lies in parallel folds at the head of the Plateau of Asia Minor, between the Caspian, the Black, and the Mediterranean seas.

9. **Plateaus.**—The principal plateaus are: Thibet, from 14,000 to 15,000 feet in altitude; Mongolia and the Desert of Gobi; Iran (Persia), Asia Minor, and the Deccan.



ANIMALS OF ASIA

10. Rivers.—The rivers of Asia rank among the longest and largest on the globe.

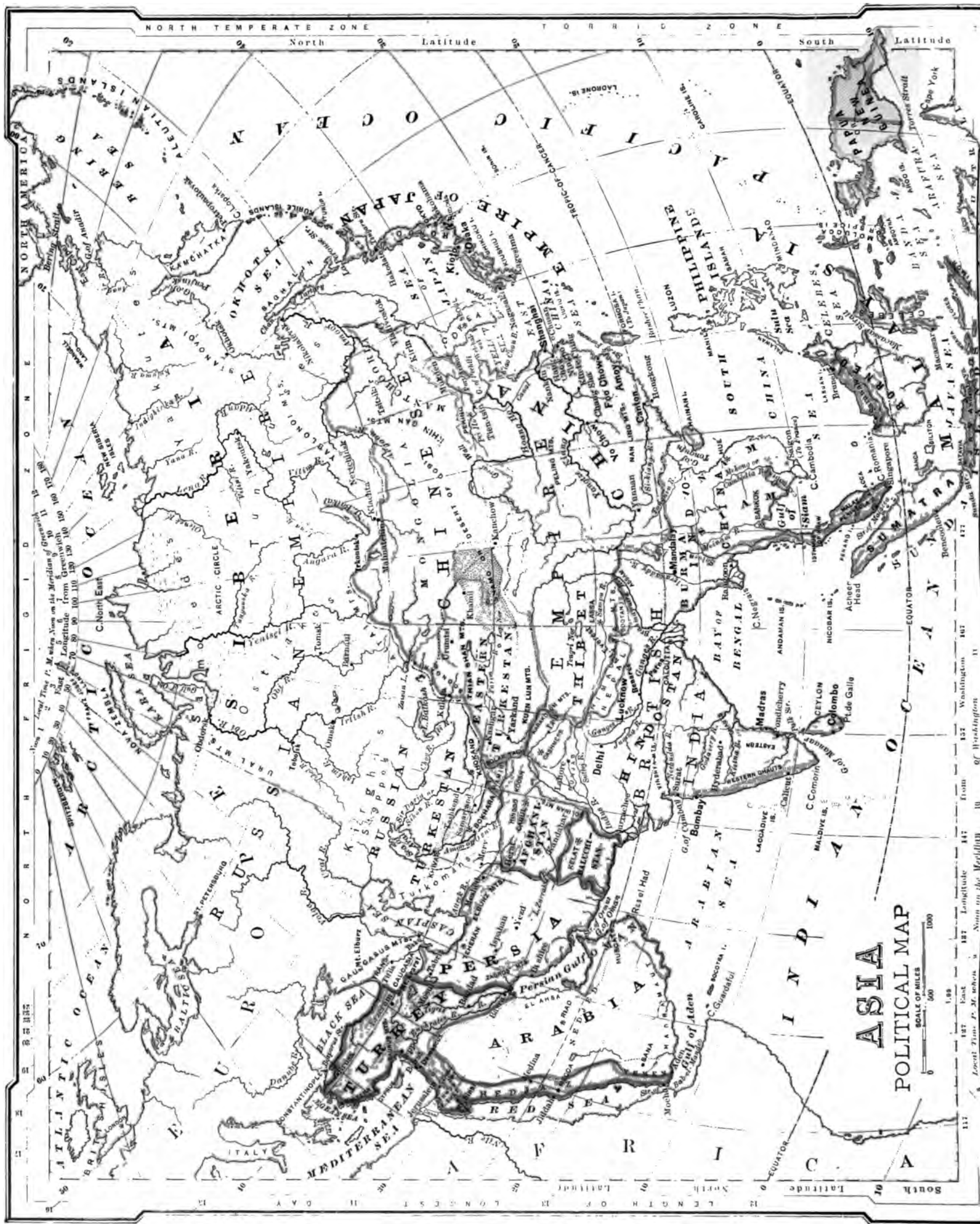
11. Climate and Vegetation.—The climate of Asia is *continental*, that is, it is subject to great extremes of heat and cold; and the temperature is not modified to so great an extent as in Europe by the influence of the ocean.

Asia is divided into three zones of climate and vegetation,—the southern or tropical, the middle or temperate, and the northern or cold. The principal characteristics of each are presented in the following table:—

COUNTRIES.	CLIMATE.	VEGETATION.
Southern Zone . . { The southern peninsulas, Arabia, India, Indo-China, and part of China.	Tropical.	Rice, cotton, sugar-cane, and tropical fruits; the poppy (opium) and spices; the palm, bamboo, and huge banyan.
Central Zone . . . { 1. The vast plateau region, including most of China. 2. Turkestan. 3. Afghanistan. 4. Persia. 5. Turkey.	Marked by the four seasons, with regular changes from one to the other.	Tea, wheat, oats, barley, rye, and the fruits of the Temperate Zone. Forest trees: oak, pine, etc.
Northern Zone . . { 1. The greater part of Siberia. 2. Kamchatka.	Marked by long, cold winters, and short summers.	The usual scanty vegetation of the Arctic Zone.

12. Animals.—Among the characteristic animals of Asia are the tiger, elephant, and rhinoceros; the tapir, buffalo, and camel; many species of monkeys, pheasants, and peacocks; together with the crocodile and the python, a great snake.

13. Civilization.—The extreme northern zone is thinly inhabited by hunters and fishermen, and the great central plateaus can support only a nomadic or semi-civilized population. The fertile plains of China and tropical Asia are the great seats of population, and are rich in natural resources. In this region, civilized nations have existed for thousands of years; but this civilization has long been stationary, and the swarms of common people are ignorant and degraded.



POLITICAL ASIA.

I.

QUESTIONS ON THE POLITICAL MAP.

Asiatic Russia.—What are the divisions of Asiatic Russia?
Ans. Siberia, Russian Turkestan, and Trans-Caucasia. Bound each division. What place on Okhotsk Sea? What place on the border of China? Name four other places in Siberia. What is the capital of Trans-Caucasia?
Chinese Empire.—Bound the Chinese Empire. What are its principal divisions? What is the capital? Name four large seaports. What British port near Canton? What large city north of Canton? What is the capital of Tibet?
Japan.—Which is the largest of the Japan Isles? What large island north of it? What two large islands south? Where is Formosa? What is the capital? What seaport south of Tokyo? What two other cities in Hondo? What two in Kiushiu?
Indo-China.—What are the three principal divisions of Indo-China? Bound each. Name the capital of each. What city in the south belongs to France? Where is Burma? What city in this division?
British India.—Bound British India. What island in the south? What is the capital, and on what river is it? What two cities in the north? Name a seaport on the eastern coast. On the western coast. What city in Ceylon?

Afghanistan and Baluchistan.—Bound these countries. Name the capital of each.
Persia.—Bound Persia. What is its capital? What city in north-west? What seaport on the Persian Gulf?
Arabia.—Bound Arabia. What division in the central part? In the south-east? Name the capital of Nedjed. Of Oman.
Asiatic Turkey.—Bound Asiatic Turkey. What two divisions on the Red Sea? What city on the fortieth meridian? North of Jerusalem? On the Tigris? On the Aegean Sea?
Malaysia.—What large group of islands in the northern part of Malaysia? On what island is the principal city of the Philippines? What are the four largest islands of Malaysia? What European country has extensive possessions in them? *Ans.* Netherlands. What is the capital of the Dutch possessions?

II.

Islands.—In what direction is it from the nearest land? By what waters surrounded?
 Ceylon? Nova Zembla? Hondo? Cyprus? New Siberia? Sumatra? Saghalin? Kiushiu? Formosa? Kurile Islands? **Peninsulas.**—From what part of Asia does it project? Arabia? Hindostan? Indo-China? Korea? Kamchatka? **Capes.**—Where is it? Into what water does it project? Tokyo? Seoul? Manila? Baku?

North-East? East? Lopatka? Cambodia? Romania? Negrais? Pt. de Galle? Comorin?
Mountains.—In what part of Asia are they?
 Taurus? Elburz? Hindoo Koosh? Kuen Lun? Thian Shan? Himalaya? Altai? Yablonoi? Khingan?
Seas, Gulfs, and Bays.—Where is it?
 Red? Arabian? South China? East China? Yellow? Japan? Okhotsk? Bering? Gulf of Aden? Persian? Siam? Tonquin? Pechili? Penjinsk? Anadir? Bay of Bengal?
Straits.—What waters does it connect?
 Bering? Channel of Tartary? La Perouse? Macassar? Malacca? Manar? Ormuz? Bab-el-Mandeb?
Lakes.—Where is it? What is its outlet?
 Balkash? Baikal? Tengri Nor?
Rivers.—Where does it rise? In what direction, and into what, does it flow?
 Tigris? Euphrates? Amoo? Indus? Ganges? Brahmaputra? Irrawaddy? Mekong? Yangtze Kiang? Hoang Ho? Amoor? Lena? Yenisei? Obi?

POLITICAL ASIA.

REFERENCE TABLE OF ASIATIC COUNTRIES.

COUNTRIES.	AREA. Square Miles.	POPULATION.	CAPITALS.	NAME OF LARGEST CITY.	POPULATION OF LARGEST CITY.	FORM OF GOVERNMENT.
Asiatic Russia	6,490,823	19,316,370	Irkoutsk and Tobolsk. Tiflis.	Irkoutsk.	52,000	Russian possessions.
Trans-Caucasia				Tashkend.	157,000	
Trans-Caspian				Tiflis.	160,000	
Chinese Empire	4,278,591	358,500,000	Peking. Tokyo. Hué. Bankok.	Absolute monarchy under an Emperor. Monarchy. Ruler called the <i>Mikado</i> . Monarchy under French protection. Absolute monarchy
Japan				Canton.	2,000,000	
Kingdom of Anam				Tokyo.	1,269,000	
Indo-China	288,410	9,604,000	Mandalay. Calcutta. Cabul. Kelat. Teheran. Muscat. Riad. Constantinople.	Hué.	30,000	Colonial Empire of Great Britain. Various independent khanates. Various independent khanates. Monarchy. Ruler called the <i>Shah</i> . Despotism. Despotism. Absolute monarchy. Ruler called the <i>Sultan</i> .
Upper Siam and Burma				Bankok.	200,000	
British India and Dependencies				Mandalay.	189,000	
Afghanistan	1,759,514	292,382,000	Calcutta. Cabul. Kelat. Teheran. Muscat. Riad. Constantinople.	Calcutta.	811,000	Native governments and European possessions.
Baluchistan				Cabul.	100,000	
Persia				Kelat.	15,000	
Arabia	700,360	15,479,147	Constantinople.	Teheran.	230,000	Native governments and European possessions.
Asiatic Turkey				Muscat.	60,000	
Malay Archipelago (exclusive of New Guinea)				Riad.	
				Smyrna.	200,000	
				Manila.	154,000	

DESCRIPTION.

ASIATIC RUSSIA.

1. **Divisions.**— Asiatic Russia comprises the vast region of Siberia, with part of Russian Turkestan and Trans-Caucasia.

I. Siberia, larger in area than Europe, occupies the whole of the great Northern Plain of Asia. It consists almost entirely of steppes and marshes, across which the Obi, Yenisei, and Lena Rivers wind their sluggish way to the Arctic Ocean. The climate is very cold, except in the southern part; and winter reigns more than half the year.

II. Russian Turkestan extends from the Altai and Thian Shan mountains westward to the Caspian Sea.

III. Trans-Caucasia includes the country lying between the Caucasus Mountains (a dividing-line between Europe and Asia) and Asiatic Turkey. The Caucasus range rises above the snow-line, and Elburz, its highest summit, reaches 18,572 feet. In the southern part, on the border of Persia and Turkey, is Mount Ararat, 17,200 feet high.

2. **Siberia.**— Siberia has numerous animals whose furs are valuable, its waters abound in fish; and the mines yield gold, silver, copper, platinum, and iron. The grain and cattle product of Western Siberia is very large.

Of the population (1897),—nearly six millions,—three-fourths consist of Mongolian tribes, savage and degraded; while Russian criminals and political exiles and their descendants, together with Russian troops and officials, constitute the remainder.

Irkoutsk, Tomsk, and Omsk on the Trans-Siberian railway, are the chief places. Kiachta is the entrepot of trade with China.

3. **Russian Turkestan** contains several dependent states called Khanates, the chief of which are Bokhara and Khiva, with cities of the same names. Bokhara, on the Trans-Caspian railway, is a noted caravan depot in Central Asia.

4. **Trans-Caucasia.**— The people of Trans-Caucasia belong to the Caucasian race, and are much celebrated (especially the women) for their beauty. The trade consists in the export of wine, silk, furs, honey, and cattle, in exchange for arms, salt, and European manufactured goods.

Tiflis is the capital and largest city.

CHINESE EMPIRE.

1. **Extent and Population.**— The territory of the Chinese Empire is larger than the whole of Europe, and its population (about 360,500,000) numbers nearly one-third that of the globe.

2. **Divisions.**— This vast empire includes China Proper, with Mantchooria, Mongolia, the province of Eastern Turkestan, and Thibet.

3. **Inhabitants.**— The inhabitants of the Chinese Empire all belong to the Mongol race, though they present great differences of appearance in the several parts of the empire.

4. **The leading industries** are agriculture, comprising the production of rice and millet for food, and of tea and silk for domestic use and export; and manufactures, which are confined principally to cotton cloths, silks, shawls, porcelain, and carved ivory.

Tea.— The tea-plant is an evergreen shrub growing five or six feet high. The leaves are gathered, and dried in shallow pans placed over charcoal fires. Tea has been used in China as a drink from time immemorial. It was introduced into Europe about two hundred years ago, and has become a universal beverage.

Silk.— The art of rearing silk-worms and of unraveling the threads of cocoons was first practiced by the Chinese. From China the silk culture extended to Hindostan, thence to Greece, next to Italy, France, and Spain,

and finally to California, completing the circuit of the land surface of the globe. Silk is a common article of dress in China for men as well as for women. Chinese silk is all woven in hand-loom.

5. **Commerce.**— The immense internal trade is carried on by means of the great rivers and canals. Railways are few. Foreign trade is limited chiefly to exporting tea, silk, etc.

6. **Government and Religion.**— The government of China is an absolute and despotic monarchy. The emperor is regarded as the representative of Deity, and as the supreme master of the lives and fortunes of his subjects. The religion most prevalent is Buddhism, there styled the religion of *Fo*.

Civilization.— The Chinese are a people remarkable for their extreme dislike to any kind of innovation. They appear to have attained at a very early period to a certain degree of civilization, and were acquainted with many discoveries, arts, and appliances which have been thought modern, as the mariner's compass, the use of gunpowder, the arts of printing, paper-making, etc. But they have advanced little beyond the condition in which they were two thousand years ago. Education is compulsory, and learning is the necessary qualification for obtaining office, or arriving at distinction of any kind. But the education is merely one of form and routine, in which the memory is the principal object of cultivation.

7. **Subject Countries.**— Thibet, Mongolia, and Mantchooria are vast and thinly inhabited regions, chiefly occupied by pastoral tribes whose chiefs own, in many cases, only a nominal subjection to the Chinese government. Until recently Korea was tributary to China, but is now independent.

8. **Cities.**— Peking, the capital, is unpaved and undrained, with filthy, narrow streets, and low, mean houses. Shanghai is the chief port, and Canton the largest city. Yo-Chow is the chief seat of the domestic commerce, and Kin-te-ching of the porcelain manufacture.

JAPAN.

1. **Japan** is an island empire.

Japan includes the chain of large and small islands extending from Kamchatka to and including Formosa.

2. **Occupations.**— Agriculture, horticulture, and various manufactures are carried on with much skill. The principal exports are rice, tea, silk, and cotton goods, lacquered ware, bronzes, straw goods, and wood-carvings.

3. **Government.**— The government is a constitutional monarchy, under an emperor called the Mikado.

4. **Civilization.**— The Japanese are the most highly civilized and the most progressive people of the Mongol race. They are now rapidly introducing railroads, telegraphs, and improved machinery of all kinds, and have public and scientific schools under European and American instruction.

Japan, like China, kept itself aloof for ages from other nations; but in 1854 the United States sent a large naval expedition, under command of Commodore Perry, who induced the Japanese Government to make a treaty by which the ports of Simoda and Hakodate were opened for trade, and by which United States consuls were allowed to reside in Japan. A little later similar privileges were allowed to England, France, and Russia.

5. **Cities.**— Tokyo is the capital and largest city, and the chief seat of the domestic trade. Yokohama, its seaport, is the chief seat of the foreign trade. Kioto and Osaka are large and important cities.

Fine silk and cotton fabrics, with shawls and various articles of ornamental attire, constitute the chief products of Indian manufacturing skill.

6. **Commerce.**—The importation of manufactured goods (principally from England), and the export of raw produce (chiefly cotton, opium, indigo, and rice), are the distinguishing features of Indian commerce.

The introduction of railroads, of which there are over 20,000 miles, has greatly aided in developing the inland trade.

7. **Cities.**—Calcutta is the capital of British India, and the chief seat of commerce. Bombay is the second city, and the principal port for the English and French lines of steamers by way of the Suez Canal. Madras is the principal city on the south-east coast. Singapore (in the Straits Settlements), on the island of the same name, is one of the most important commercial stations in southern Asia.

The possession of Singapore and the two other Straits Settlements gives the British the command of the Strait of Malacca, the direct line of communication with China and Japan.

AFGHANISTAN AND BALUCHISTAN.

1. **Description.**—These countries occupy a high desert plateau, traversed by mountain-ridges, and dotted with oases. The fertile parts comprise several khanates, inhabited by a settled population; but the majority of the people consists of fierce, wandering, and warlike tribes, who live in tents, and depend for subsistence mainly on their herds of horses, goats, asses, and camels.

2. **Cities.**—Cabul is the capital and largest city of Afghanistan. Herat is a great center of caravan traffic, and is important from its situation on the main route from western Asia to India. Kelat is the capital and largest place in Baluchistan.

PERSIA.

1. **Description.**—The greater part of Persia is a plateau, marked by sandy and salt deserts; but along the Persian Gulf and the Caspian Sea is a lowland region.

2. **Inhabitants.**—Of its population of seven and one-half millions, about one-third are wandering shepherds; the remainder are a tolerably civilized people, who are engaged in agriculture and manufactures.

3. **Commerce.**—The chief exports are silks, shawls, carpets, pearls, rose-water, and asafetida.

4. **Government.**—The government is a monarchy, under a ruler called the Shah, and is less despotic in its administration than most of the other Asiatic governments.

Considerable progress has recently been made in civilization in Persia: railroads and telegraphs have been introduced, and efforts to promote education have been made.

5. **Cities.**—Teheran is the capital; Tabriz, the chief seat of commerce; Bushire, the chief port on the Persian Gulf.

ARABIA.

1. **Physical Features.**—Arabia consists of an interior plateau with fertile valleys, of extensive deserts in the north and south, and of a narrow belt of lowland along the greater part of the coast, mostly arid, but containing some productive regions.

2. **Inhabitants.**—The Arabs are divided between dwellers in towns, and inhabitants of the desert.

The latter, called Bedouins, constitute numerous tribes, each under its own chief, or sheik. They lead a wandering life, changing the site of their encampment according to the necessity of finding pasturage for their flocks. The Bedouins look with contempt upon the settled pursuits of those who live in towns.

3. **Divisions.**—The settled or civilized part of Arabia includes several political divisions, of which the most important are Hedjaz and Yemen on the western coast, Oman on the south-eastern coast, and Nedjed in the interior.

I. Hedjaz, or the land of pilgrimage, is a province of the Turkish Empire. It contains the two sacred Mohammedan cities, Mecca and Medina.

II. Yemen, occupying the remainder of the Red Sea coast, is the most fertile part of Arabia. It is under Turkish dominion.

III. Oman, occupying the region between the Persian Gulf and the Indian Ocean, is divided among several native rulers, the most powerful of whom is the Sultan of Oman (commonly called the Imam of Muscat).

IV. Nedjed is the most important of the native states, and is ruled by a Sultan. It produces the finest breed of Arabian horses.

4. **Commerce.**—The principal exports of Arabia are coffee, dates, gum-arabic, myrrh, frankincense, some aromatic and medicinal drugs, and pearls.

The traffic of the country is considerable, and is carried on by means of caravans. The camel is the principal beast of burden employed.

5. **Cities.**—Mecca and Medina are the two principal cities in Hedjaz.

Mecca was the birthplace of Mohammed, and Medina the place of his death. Mohammed, the great religious teacher of the Arabs, lived in the sixth century, A.D., and wrote his doctrines in the *Koran*, the sacred book of his followers. All "true believers" are enjoined to visit Mecca at least once in their lives. Caravans of pilgrims from all parts of Arabia, from eastern Asia, and from northern Africa, resort each year to this holy city for the purpose of combining trade with religion.

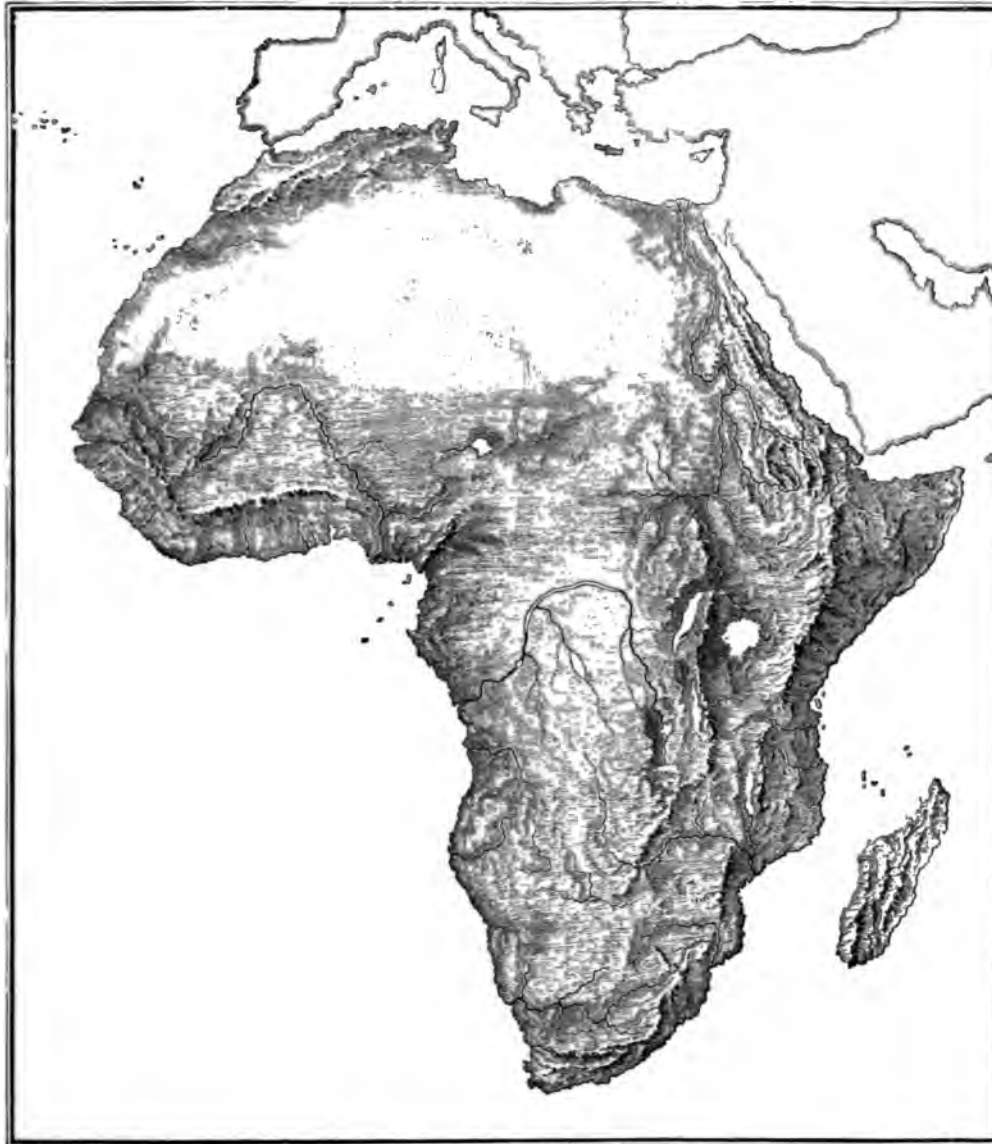
Sana is the chief city in Yemen. Mocha, formerly a considerable port, is now in ruins. Muscat is the capital of Oman, and Riad of Nedjed.



KHYBER PASS, BETWEEN INDIA AND AFGHANISTAN.



AFRICA.



PHYSICAL VIEW OF AFRICA.

[Area, 11,616,000 square miles. Population, 168,600,000.]

QUESTIONS ON THE MAP.

I. PHYSICAL.

What great circle and tropics cross Africa from east to west? In which zone is the greater part? In which zone is the northern part? The southern part? What two seas north and east? What ocean east? West? What part of the United States is in the same latitude as the northern part of Africa? (See map of the United States, pp. 28, 29.) What grand division north of Africa? East? In what latitude is Algiers? Cape Agulhas? How much farther south is Cape Horn? (See map of South America, p. 62.) When it is noon at Washington, what time is it at Cairo? When it is noon at London, what time is it at Cairo? What isthmus connects Africa with Asia? What canal crosses this isthmus? What waters does it connect? What places at its termini? What strait connects the Mediterranean Sea with the Atlantic Ocean? What gulf in the western part? What channel separates Madagascar from the mainland? What gulf in the north-eastern part? What is the most northerly cape of Africa? The most

westerly? The most southerly? What famous cape near the southern extremity? What is the most easterly cape? Name the principal mountain-ranges that border the African coast. What plateau in the eastern part? What two peaks near the Equator? What extensive desert in the northern part? Name two other deserts. What two large lakes are crossed by the Equator? Name four lakes south of the Equator. What lake in Soudan? What great river flows from the equatorial lakes into the Mediterranean? What river drains the southern part of Central Africa? What great river drains the central part? What great river drains Soudan? What parallel crosses the region of greatest heat? What are the principal vegetable products of the Barbary States? Of the Nile valley? Of the west coast? What can you say of plants and animals in Central Africa? What are the principal animals of the eastern coast? In what parts of Africa are the largest wild animals found? Where is the lion found? The crocodile? The camel? The ostrich? The gorilla? In what regions are domestic animals most numerous? Name and locate the minerals of Africa. Name the principal plants, animals, and minerals of Madagascar. What are the principal ocean-currents flowing along the west coast? The east coast?

II. POLITICAL.

Name the four Barbary States. What are the capitals of Morocco? What is the capital of Algeria? Of Tunis? Of Tripoli? What country occupies the Nile valley? What are its principal divisions? Which city is the capital? What two ports north of Cairo? What country east of Egypt? What is the capital? What coast country east of the equatorial lakes? What is its capital? What island division east of Mozambique Channel? Its capital? What British possessions in the southern part? What is the capital of Cape Colony? Name some of the divisions of Upper Guinea. What vast natural division south of the Barbary States? South of Sahara? South of Soudan?

III. REVIEW QUESTIONS.

Capes.—Where is it? Into what water does it project?

Agulhas? St. Mary? Bon? Good Hope? Verde?

Lakes.—Where is it? What is its outlet?

Tchad? Tanganyika? Victoria Nyanza? Nyassa? Albert Nyanza? Bangweolo?

Rivers.—Where does it rise? In what direction, and into what, does it flow?

Orange? Niger? Nile? Zambezi? Kongo or Livingstone?

Divisions Natural or Political.—Where is it?

Morocco? Liberia? Sahara? Egypt? Nubia? Cape Colony? Zanzibar? Soudan? Abyssinia? Algeria? Egyptian Soudan? Natal? Madagascar?

Cities.—In what part of the country? How situated?

Cape Town? Fez? Cairo? Addis Aheba? Algiers? Alexandria? Timbuctoo? Tananarivo? Ujiji? Port Said? Suez? Freetown? Tripoli? Khartoom?



DESCRIPTION.

I. SIZE AND SITUATION.

1. Africa ranks next to Asia in size. It occupies the entire width of the Torrid Zone, its northern section extending into the North Temperate, and its southern section into the South Temperate Zone.

Africa, surrounded on all sides by the ocean, except where it is united to Asia by the Isthmus of Suez, is *naturally* a great southern peninsula of the Eastern Continent; but, by cutting a canal across the Isthmus of Suez, it has been rendered an island-continent.

II. DIVISIONS.

2. Africa is naturally divided into four parts, — Northern Africa, the Sahara, Soudan and Central Africa, and Southern Africa.

3. **Northern Africa** extends from the Mediterranean to the border of the Sahara, or Great Desert. In the northern part of this division is the Atlas range.

4. **Sahara.** — The Sahara, the most extensive desert on the globe, commences to the southward of the Atlas system, and extends to the border of Soudan, with a breadth, in some parts, of more than a thousand miles. It forms a plateau of moderate elevation.

5. **Soudan and Central Africa** extend from the southern border of the Sahara to the Kalahari Desert. The whole region is a low plateau, bordered to the westward by a rim of coast mountains, and to the eastward by the Plateau of Abyssinia and irregular ranges near the eastern coast.

The Plateau of Abyssinia is the most elevated in Africa; but the eastern ranges contain the loftiest summits. The peaks of Kilimanjaro and Kenia, though under the equator, are covered with perpetual snow.

6. **Southern Africa.** — Southern Africa includes the fertile section south of Kalahari Desert.

III. RIVERS AND LAKES.

7. **Rivers.** — The African rivers are few in number, though some of them are noted for their great length. The most important are the Nile, Niger, Kongo or Livingstone, and Zambezi.



8. **Lakes.**—In the equatorial region of Africa is a series of lakes rivaling in size the Great Lakes of North America. The largest of these are lakes Albert Nyanza, Victoria Nyanza, and Tanganyika: they have all become known within late years, and have only recently been explored.

IV. VEGETATION, ANIMALS, ETC.

9. **Vegetation.**—Tropical Africa has abundant rains and a luxuriant vegetation. The baobab, a remarkable tree with a trunk often thirty feet in diameter, is found on the higher lands of Central Africa; the alluvial plains on the western coast are covered with thickets of mangroves and other trees; and on the borders of the equatorial region are groves of mimosas and acacia, from the latter of which trees gum-arabic is obtained. Palms are numerous: the oil-palm is found only on the coast of the Gulf of Guinea; while south of the Atlas region, and in the oases, is found the date-palm, which furnishes a large part of the food of the inhabitants. Other characteristic plants are the papyrus, or paper-plant, the lotus, and the senna-plant.

10. **Animals.**—Africa is the land of wild beasts. The elephant, hippopotamus, and rhinoceros; the zebra, elk, camel, and giraffe; springboks, antelopes, and buffaloes; the gorilla, chimpanzee, mandril, and other baboons and monkeys; the lion, panther, and leopard,—these are only the more prominent of the quadrupeds which roam through the forests, and over the plains of Africa.



ANIMALS OF AFRICA.

The ostrich inhabits the sandy deserts, and parrots and paroquets, with other birds of beautiful plumage, are innumerable. Lizards and venomous serpents of almost every species abound in all parts, and the Nile is noted for crocodiles.

11. **Population.**—The population of Africa is estimated at about two hundred millions. Of these the greater part are negroes, divided into numerous tribes.

12. **Divisions.**—The principal political divisions of Africa are the Barbary States, Egypt and Abyssinia, the Sahara, Kongo State, Soudan, and the European Colonies.

BARBARY STATES.

1. **Divisions.**—The Barbary States are Morocco, Algeria, Tunis and Tripoli. Morocco, an independent sovereignty, is governed by a Sultan; Algeria, with its dependency Tunis, is a French colony; Tripoli, together with its tributary states, Fezzan and Barca, is a dependency of the Turkish Empire.

2. **Commerce.**—The principal exports are wool, goat-skins and leather, gum, wax, olive-oil, and dates. Besides this trade, considerable commercial intercourse is carried on with the natives of Central Africa by means of caravans which cross the Sahara.

3. **Cities.**—Fez and Morocco are the capital cities of Morocco; Algiers, the capital of Algeria; and Tunis and Tripoli, respectively the leading cities of the states of the same names.

EGYPT AND ABYSSINIA.



STREET SCENE IN CAIRO.

1. **Divisions.**—Egypt actually controls only the lower valley of the Nile, but it has claims to the whole valley from the equatorial lakes to the Mediterranean Sea.

2. **The Nile.**—The River Nile is the most striking physical feature in Egypt: without this beneficent stream, the whole country would be a hot and arid desert. Nearly all the productive and habitable parts are comprised in its valley and delta.

I. **The Nile valley** is, owing to the annual inundation of the Nile, one of the most fertile regions on the globe. These inundations begin about the middle of June, attain their greatest height in September, and subside about the end of October. Before its subsidence, the muddy river-water deposits a fertilizing sediment, half an inch thick, over all the land, and thus annually renews the productiveness of the soil.

II. Egypt is a country of vast antiquity, and the Egyptians are the oldest nation of which we have a recorded history. They were a highly civilized people at the time of Abraham, more than two thousand years before Christ. The whole course of the Nile is dotted with remains of ancient monuments and works of art, such as pyramids, temples, obelisks, palaces, tombs, etc. The interiors of the tombs are frescoed in the most beautiful manner, and all the monuments are covered with picture-writing called hieroglyphics.

3. **Government.**—Egypt is part of the Turkish Empire, under British protection. Its ruler is called the Khedive.

4. **Occupation.**—The principal occupation is agriculture. Wheat, barley, maize, rice, and cotton form the chief crops; tobacco, sugar, and indigo are produced to a considerable extent.

5. **Commerce.**—Grain and cotton are largely exported; and, in addition to these products of the country, great quantities of gold-dust, ivory, and ostrich-feathers, are brought by caravan from the interior of Africa. The Suez ship-canal is of immense commercial importance.

By the Suez Canal the Atlantic and Indian Oceans are connected *via* the Red Sea, thus saving the extended voyage around the Cape of Good Hope. The total length of the Canal from Port Said, on the Mediterranean, to Suez, its terminus on the Red Sea, is eighty-seven miles, sixty-six actual canal and twenty-one miles lakes.

6. **Population, etc.**—The population is a great mixture of races,—Copts, Arabs, Turks, Greeks, etc. The prevailing religion is Mohammedanism.

7. **Cities.**—Cairo, the capital, is the chief seat of trade and manufactures. Alexandria is the chief seaport.

8. **Abyssinia.**—Abyssinia is an elevated plateau, ridged by rugged mountains, between which are fertile valleys covered with luxuriant vegetation. The country is divided between several petty independent states, inhabited by warlike and semi-barbarous tribes. The people, numbering about four millions, profess a sort of Christianity. The government of Abyssinia is despotic, under a ruler called the Negus.

Addis Abeba is the capital. Massaua, on the Red Sea, the chief seaport, is occupied by the Italians.

THE SAHARA.



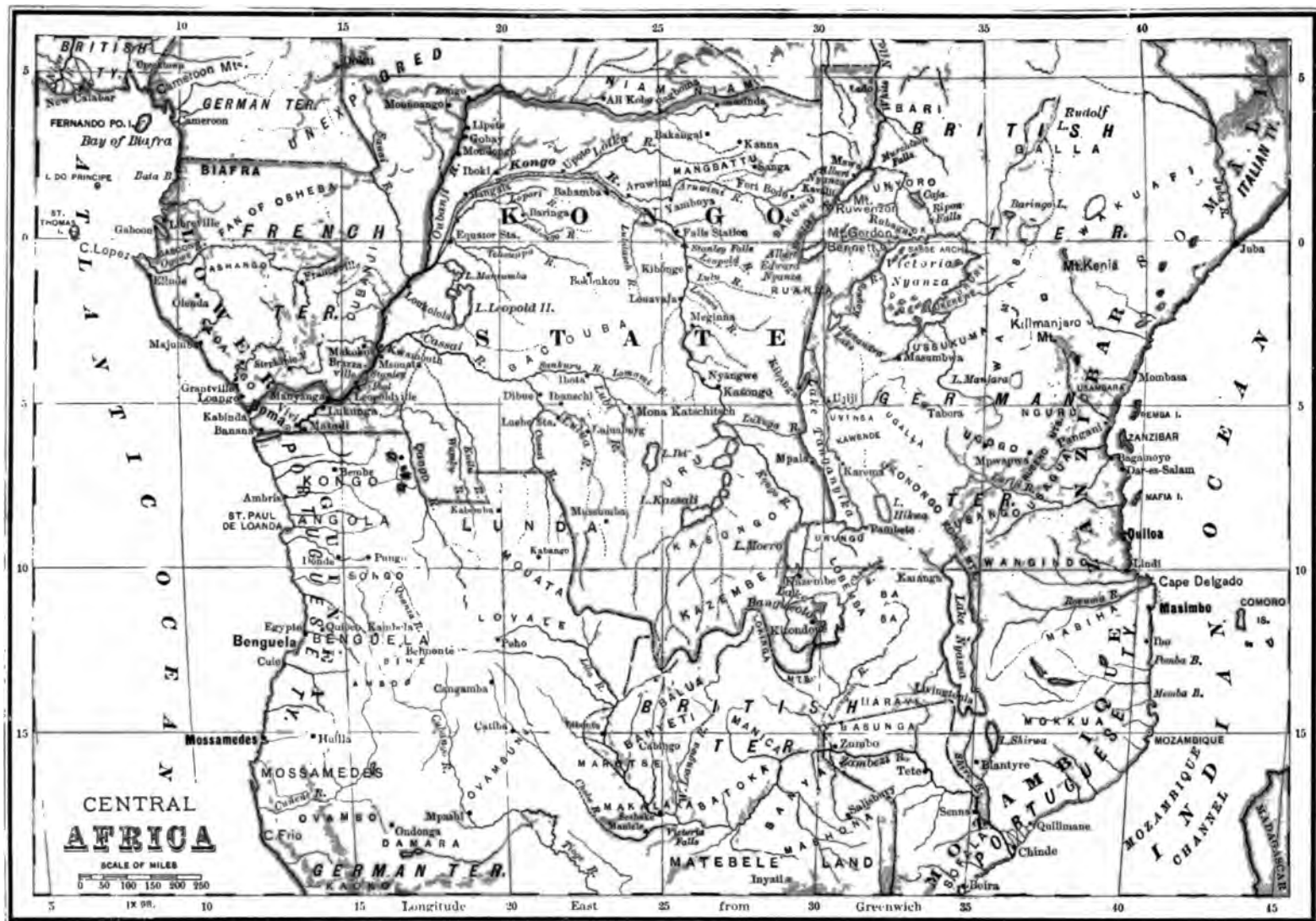
CROSSING THE GREAT DESERT.

1. **Description.**—The Sahara is a parched, sandy, and desolate waste, occupying one-fourth of the surface of Africa, or an area equal to about two-thirds that

of Europe. The only habitable parts are the oases: these are fertile spots covered with date-palms, which offer their grateful shade, refreshing water, and sweet fruit, to the weary caravans.

2. **The inhabitants** probably do not number over 100,000 souls. They comprise several tribes,—Moors, Tuaregs, and Tiboos,—wanderers who feed their flocks and herds on the scanty herbage as they pass from oasis to oasis, and who subsist on the milk of their camels, on dates from the oases, and on what they can plunder from the caravans.

Numerous caravans, sometimes consisting of thousands of camels, cross the desert, by various routes, from the Barbary States to Central Africa, occupying from thirty to ninety days in the journey. It would be utterly impossible for man to traverse the Sahara without the aid of the camel, which is the only animal that can eat the coarse herbage growing in the desert, and the only animal, that, without water, can pass long periods of time on the burning sands.



CENTRAL AFRICA.

1. **Situation.**—Central Africa comprises the vast region represented in the accompanying map. It is only during recent years that this portion of the dark continent has become known to the civilized world.

Explorations.—The series of bold explorations which has resulted in largely increasing our knowledge of the geography of interior Africa began about forty years ago. In 1852 the celebrated Dr. David Livingstone traversed South Africa, and, after a four-years' journey of eleven thousand miles, descended the Zambezi River to its mouth. In 1856 Burton and Speke landed at Zanzibar, and two years later, after a journey of a thousand miles, discovered Lake Tanganyika. Speke immediately pushed his explorations to the northward, and discovered the magnificent lake to which he gave the name Victoria Nyanza. (N'yanza, meaning "the lake," is the native name of this body of water.) Victoria Lake was in 1861 revisited and further explored by Speke, accompanied by Capt. Grant. Three years later, Sir Samuel Baker discovered the great lake to which he gave the name of Albert Nyanza, traced its connection with the Victoria Nyanza, and beheld, emerging from the former, the majestic Nile, whose sources had been vainly sought for two thousand years. From 1865 to 1871 Dr. Livingstone made extensive surveys of the region of the great lakes, exploring lakes Bangweolo, Nyassa, and Tanganyika. For two years subsequent to May, 1869, at which time Dr. Livingstone was at Ujiji, no tidings were received from him, and he was supposed to be dead; but in 1871 Stanley found him, alive and well, at the last-named place. Soon afterward, Livingstone undertook another series of explorations towards the west, but died in the midst of these in 1873. In 1874 Lieut. Cameron, a man distinguished for his scientific at-

tainments, and boldness as an explorer, starting from Nyangwe, the most westerly point reached by Dr. Livingstone, performed the remarkable exploit of forcing his way to the Atlantic, which he reached at Benguela in the following year. Soon afterward Stanley again returned to the heart of the African continent, and, starting near its head waters, sailed down the Kongo River to the sea. Since that time Central African exploration has been mainly devoted to the investigation of the Kongo and its tributaries, and to opening them to the commerce of the world.

2. **Physical Features.**—This vast region contains the system of equatorial lakes, including the Victoria Nyanza and Albert Nyanza, which are the chief sources of the Nile. It is drained by the two great rivers, the Kongo to the Atlantic, and the Zambezi to the Indian Ocean. Central Africa receives an abundant rainfall, and is characterized by fertile soil and luxuriant vegetation. It is the home of some of the largest African animals.

3. **Inhabitants.**—Central Africa is inhabited by many millions of blacks or negroes, divided into numerous tribes and kingdoms. These differ greatly in respect to their social state, from the semi-civilized people of Uganda to the cannibals of Wenya.

Though the various peoples of Central Africa differ much in social condition, they all possess the elements of a rude civilization. They live in villages composed of huts, cultivate the soil, plant gardens of fruit-trees, possess cows, sheep, goats, and poultry, and manufacture cotton cloth, earthen-ware, leather, and metal goods.

KONGO STATE.

1. **The Kongo State** occupies nearly the entire geographical basin of the Kongo River, extending from the Atlantic Ocean at the mouth of the river to the great lakes of Eastern Central Africa.

The Kongo State was founded by an international conference which met at Berlin in 1885 to devise means for the promotion of civilization and the development of trade among the people of the Kongo basin. The state is under the sovereignty of the King of Belgium, who appoints the Governor-General and all other officers of the Government, and enacts all laws for the conduct of its affairs. The area of the Kongo State proper is about 870,000 square miles.

2. **The Kongo River** and its tributaries are the great natural ways of trade.

The navigation of the Kongo is interrupted at Matadi, about 100 miles from its mouth, by numerous rapids. Around these obstructions of over 200 miles a railway extends to Stanley Pool. Above this it is navigable for over 1,000 miles, while many large tributaries are also navigable for great distances. The principal occupied stations are Banana, Boma, Matadi, Lukunga, Leopoldville, Stanley Falls, and Luluaburg. The principal exports are ivory, nuts, palm oil, rubber, copal, coffee, and wax.

3. **The capital is Boma**, on the lower Kongo.

Soudan.

1. **Soudan.**—Soudan (in Arabic *Belad-es-Soudan*, or Land of the Blacks) is a broad belt across Africa from Senegambia to southern Egypt.

This region consists of extensive plains, which, owing to the copious rains, are covered with luxuriant vegetation. It includes the basin of Lake Tchad and that of the Niger. Its climate is tropical, but healthful.

QUESTIONS ON THE MAP.

Melanesia.—What is the largest island of Melanesia? What strait separates Papua from Australia? What two islands east of Papua? What group south-east of New Britain? What are the most southerly groups? Name other islands in Melanesia. What island belongs to France? Measure by the scale of miles the length of New Guinea.

Australasia.—In what hemisphere is Australia? What tropic crosses it near the middle? By what waters is it sur-

2. **Division and Inhabitants.**—Soudan is divided into numerous semi-barbarous states. The principal cities are Timbuctoo, Sokoto, Kano, Yako, and Kuka. The inhabitants consist of many millions of blacks, with a considerable number of Fellatahs, a mixed race, partly of negro and partly of Berber descent.

The Fellatahs are Mohammedans, as are also many of the negro tribes: the rest are Pagans.

3. **The commercial productions** are gold-dust, ivory, and ostrich-feathers.

REPUBLICS AND COLONIES.

REPUBLICS.

1. Africa has three small republics.—Liberia, the Orange Free State and the South African Republic.

2. **Liberia**, originally founded for the free negroes and emancipated slaves of the United States (during the time when slavery existed in our country), was

made independent in 1848. The capital is Monrovia.

3. **South African Republic and Orange Free State** are Dutch "Boer" republics.

EUROPEAN POSSESSIONS.

4. The following are the principal European colonies or trading towns on the coasts:—

Senegambia, where the French have a large colony. **Sierra Leone** was established by the British as a refuge for liberated slaves. Freetown is the chief place.

Guinea.—The English, Spanish, Portuguese, French, and Germans have ports and "factories" along the coasts.

Cape Colony and Natal are important British colonies. Cape Town is the largest city.

Portuguese East Africa comprises the districts of Mozambique and Lourenço Marques.

Zanzibar is controlled by the Germans and English. Zanzibar is the most important town.

ISLANDS.

5. **Madagascar**, the largest island of Africa, is a French colony. The most influential tribes are of Malay stock. They have long practiced such arts as smelting,

weaving, and rope-making, and are skillful in the manufacture of jewelry, carpets, and cutlasses. Tananarivo is the capital.

6. **Mauritius**, a small volcanic island east of Madagascar, belongs to Great Britain. Reunion Island belongs to France.

7. **St. Helena**, twelve hundred miles distant from the African coast, is a small island, noted as the place of the banishment and death of Napoleon Bonaparte, 1816–1821.

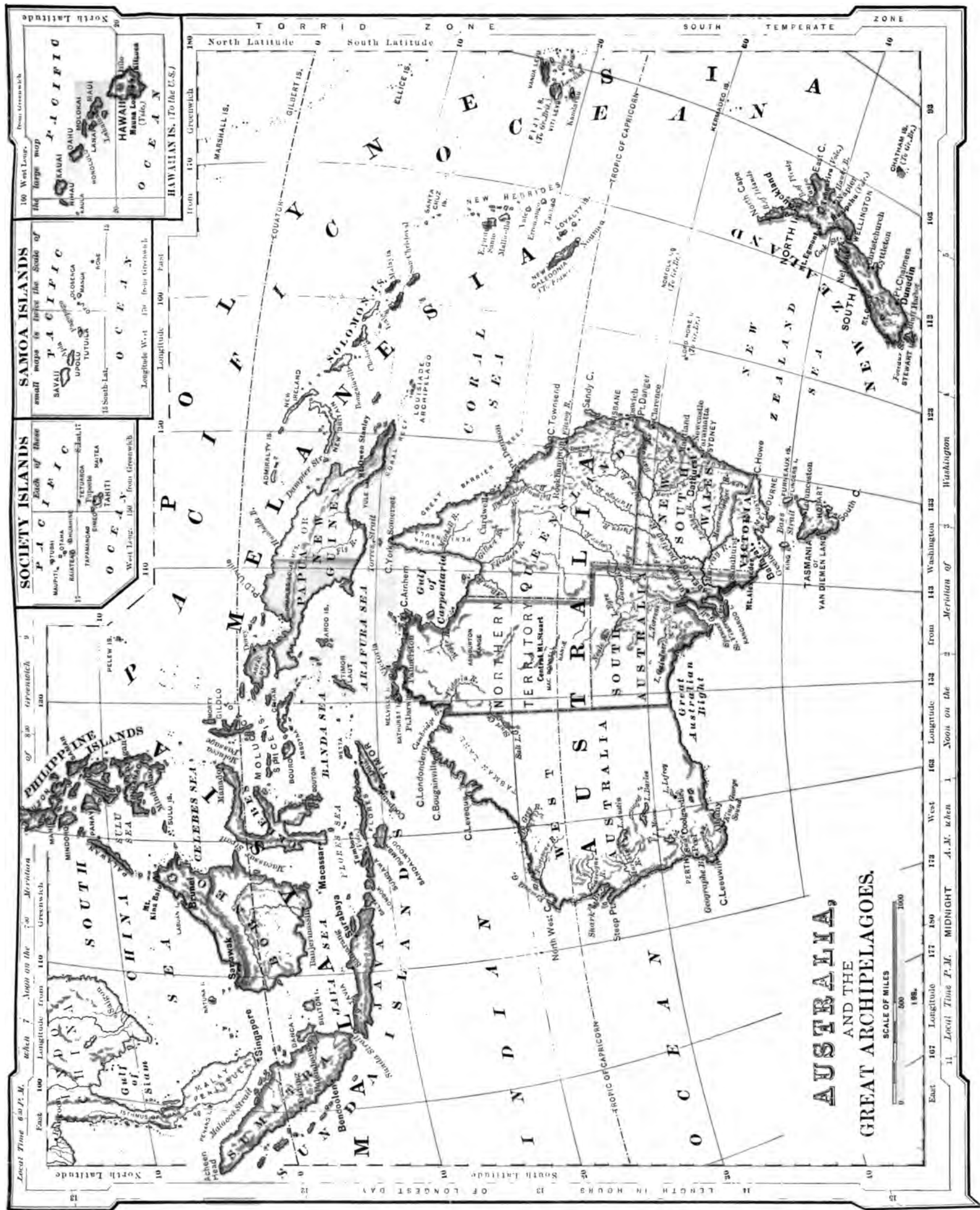


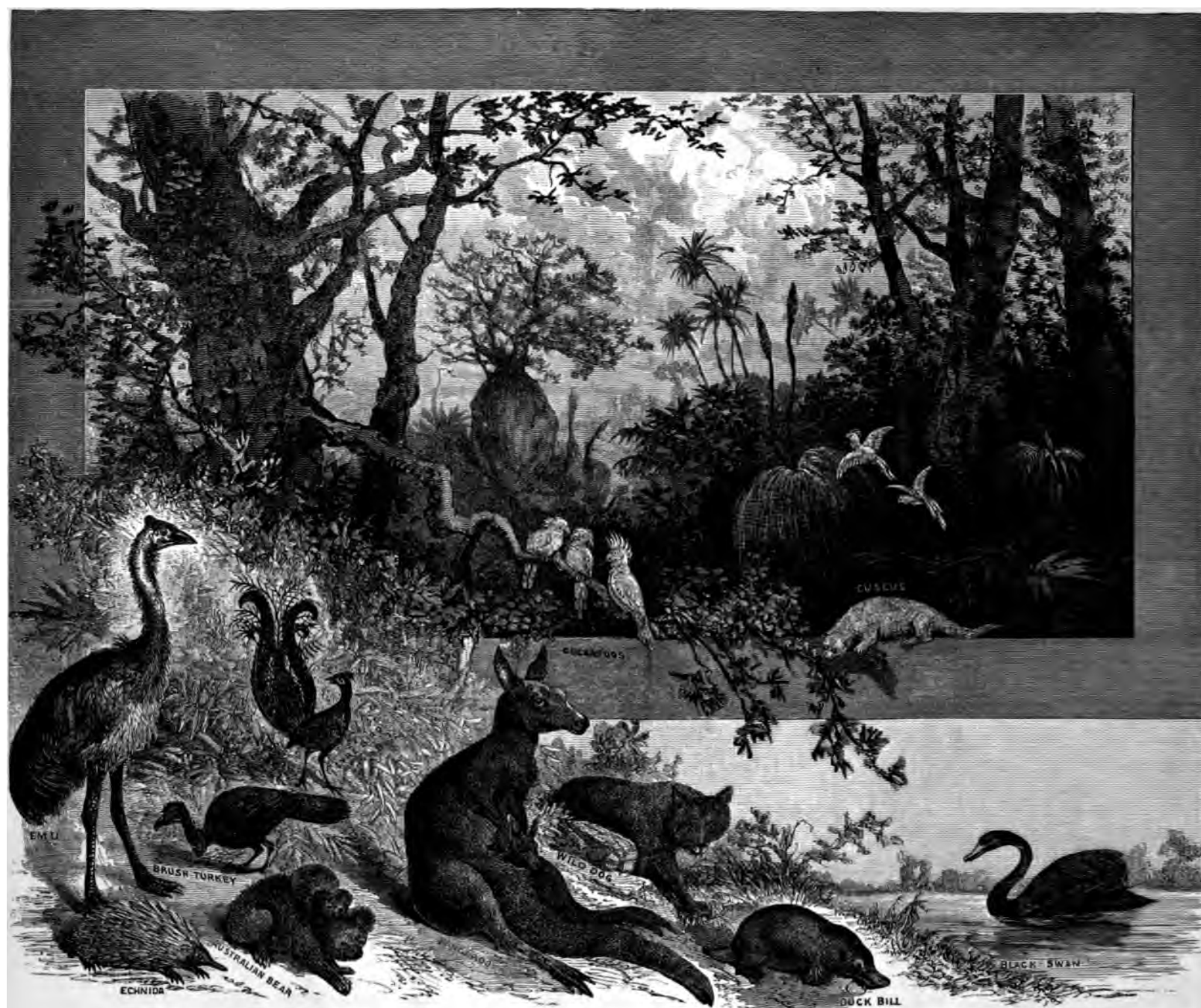
OSTRICH-FARMING IN SOUTH AFRICA.

OCEANICA.

principal city? What two islands a thousand miles east of southern Australia? What British colony occupies these two islands? In what zone is it? What is the capital? **Polynesia.**—What group of islands near the meridian of 180°? To what power do they belong? What are the three principal islands of the Hawaiian group? What is their latitude and longitude? What is the capital? On what island is it? On what island is the volcano of Mauna Loa? What group of islands in longitude 150°? What is the principal island of the Society group? To what country does it belong?

rounded? What gulf in the northern part? What great indenting of the sea in the southern part? Where is Cape York? North-west Cape? What parts are mountainous? What are the principal branches of the Darling River? Is Australia well supplied with rivers? Describe the location of the following colonial divisions: Victoria, New South Wales, Queensland, West Australia, South Australia and its dependency, Northern Territory. Where is Melbourne? Sydney? Adelaide? Brisbane? What sea-port in the north? On the western coast? What island south of Australia? What is its





PLANTS AND ANIMALS OF OCEANICA.

DESCRIPTION.

1. **Divisions.** — Oceanica includes the Malay Archipelago, Australasia, Melanesia, and Polynesia.

The Malay Archipelago has been described under Asia.

AUSTRALASIA.

2. **Divisions.** — Australasia comprises the continental island of Australia, Tasmania, New Zealand, and, according to some geographers, also includes the group of islands called Melanesia, extending from New Guinea to New Caledonia.

Australia, Tasmania, and New Zealand are British colonies.

3. **Australia.** — Australia, the greatest of islands, is more than two-thirds as large as the United States. The interior, which is mostly unexplored territory, is a low plateau, a considerable part of it desert. The rivers are few, the most important being the Murray and its tributaries.

4. **Climate.** — The northern half is in the Torrid Zone, and has a tropical climate: the southern section has the temperature of Southern Europe. Long periods of drought occur, while at certain seasons the rains fall with great violence.

As Australia is situated in the southern hemisphere, the seasons are the opposite of ours: thus it is hottest at Christmas, and coldest in our midsummer. The Australian farmer sows his seed when we are gathering our harvests, and the reverse.

5. **Vegetation.** — The forest vegetation is peculiar, the native trees being evergreens, and some shedding their bark instead of their leaves. Acacias, gum-trees (the *eucalypti*), and gigantic tree-ferns, are the chief forest-trees.

6. **Animals.** — The wild animals are quite as peculiar as the vegetation. The largest is the kangaroo, which is a pouched animal. A very remarkable animal is the ornithorhynchus: it is a water animal, shaped like a beaver, has web feet, and a bill like that of a duck.



SCENE IN POLYNESIA.

7. Political Divisions.—Australia is divided into five colonies and one territory: 1. Victoria; 2. New South Wales; 3. Queensland; 4. West Australia; 5. South Australia, and its dependency, Northern Territory.

8. The government in each colony consists of a Governor appointed in England, a Legislative Council, and a Legislative Assembly elected by the people.

9. Natural Wealth.—Its rich mines of gold, copper, iron, and coal, and its great extent of agricultural and grazing lands, constitute the natural wealth of Australia.

10. Occupations.—The leading industries are mining, agriculture, and stock-raising. In the production of gold and wool it ranks among the leading countries of the world.

11. Commerce.—Australia being a colony of Great Britain, its trade is mostly carried on with the mother-country. It exports wool, gold, copper, tin, hides, tallow, and preserved meats, and receives in exchange the cotton and woolen goods, iron, and hardware of England.

12. Cities.—Melbourne, the capital of Victoria, is the great commercial and monetary center of Australia. Sydney, in New South Wales, is the second city in importance. Adelaide, the chief city of South Australia, is largely engaged in manufacturing and trade. Brisbane is the chief city of Queensland. Perth is the chief city of West Australia.

13. Tasmania and New Zealand.—Tasmania and New Zealand are British colonies. Agriculture and sheep-raising are carried on in both colonies: in addition, the whale-fishery is followed in Tasmania, and gold-mining in New Zealand. Hobart is the capital and chief city of Tasmania; Wellington, of New Zealand.

MELANESIA.

New Guinea, the largest island of Melanesia, ranks next to Australia as the largest island on the globe. The Melanesian islands are in general highly productive, yielding tropical food-plants and valuable timber-trees. The native inhabitants belong to the Papuan negro race.

New Guinea is now occupied by the Dutch, the Germans, and the English. The French have a penal settlement in New Caledonia.

POLYNESIA.

1. Polynesia, meaning "many islands," is the name given to the small islands and groups in the Pacific Ocean east of Australasia and Malaysia, and south of the Tropic of Cancer.

2. Products.—These islands combine the three things requisite for luxuriant vegetation; namely, heat, moisture, and a fertile soil. The principal indigenous food-plants are the bread-fruit, yam, sweet-potato, taro-root, arrow-root, banana, plantain, and cocoanut. Coffee, sugar, cotton, rice, and, in fact, most of the fruits and grains of the tropical and temperate zones of Asia, have been introduced into these islands.

3. Native Races.—The South-Sea Islanders are seafaring people, and display great skill and boldness in the management of their canoes. Their natural intelligence shows them to be capable of a high degree of civilization; but they have been rapidly dying out since they came in contact with the white race. The whole population of all the Polynesian Islands does not exceed half a million.

4. Hawaiian Islands.—The Hawaiian Islands, the most important group, are situated just a little south of the Tropic of Cancer, between 150° and 160° west longitude. The largest island is Hawaii, which is about the size of Connecticut. These islands were annexed to the United States in 1898. The population of the group is about 92,000. Most of the native inhabitants profess Christianity. The principal exports are sugar, rice, and cocoanut products. Honolulu, the capital and principal seaport, is an important coaling and supply station for vessels sailing from San Francisco to China and Japan.

Hawaii is noted for its great volcanic peak, Mauna Loa, 13,000 feet high. Kilauea, a lower lateral crater of Mauna Loa, halfway up the mountain-side, is nine miles in circumference, and is sometimes filled with a fiery lake of red-hot lava.

5. The Society Islands contain a population of about 16,000, the majority of whom have been converted to Christianity. The Island of Tahiti is under French rule. The various foreigners settled in these islands carry on some commerce, consisting chiefly in the export of pearl shells, sugar, cocoanut-oil, and arrow-root.

6. The Fiji Group comprises over three hundred islands, of which about one-half are inhabited. These islands are under British rule. The number of islanders is estimated at 125,000. The Fijians are among the most warlike and most skillful of the Polynesians. All of them were formerly cannibals; but they have now given up this practice. The cultivation of fruit for export is the chief industry.

THE POLAR REGIONS.

1. The **Polar Regions** are those parts of the earth's surface north of the Arctic Circle and south of the Antarctic Circle. They consist of the Arctic region and the Antarctic region.

I. ARCTIC REGION.

2. **Early Discoveries.**—It is quite certain, that, as early as the tenth century A.D., settlements were made by the Norsemen in high latitudes on the coast of Greenland. But our knowledge of what was accomplished by these voyagers is vague, and our interest in Arctic exploration begins with the series of expeditions for the discovery of a "North-west passage," undertaken soon after the discovery of America by Columbus.

3. **North-west Passage.**—The object of those who undertook the search for a North-west passage was the discovery of a route on which, sailing westward around the northern extremity of the American continent, they might reach the East Indies. It was with the view of finding a westward way to Cathay (China) that Columbus undertook his first voyage of discovery. When, however, it was found that a New World barred access to the Orient, daring navigators began to try if they could not open a pathway by the circumnavigation of North America.

The first of these attempts was made by Cabot in 1498, and this was followed during the next three hundred and fifty years by a long series of baffled efforts, till at last, in 1854, Capt. McClure established the fact of a continuous passage by water from Baffin Bay to Bering Strait. In the following paragraphs will be found brief notes of a few of the more important in a long series of heroic endeavors that too often received only the martyr's reward, — death.

Explorations.—In 1498 Sebastian Cabot (who, with his father, had in the preceding year discovered the mainland of North America) undertook a voyage expressly to find "that hidden secret of nature," the direct passage to Asia. He proceeded northward from Labrador, about half-way up Davis Strait, till icebergs compelled him to change his course, and give up the attempt.

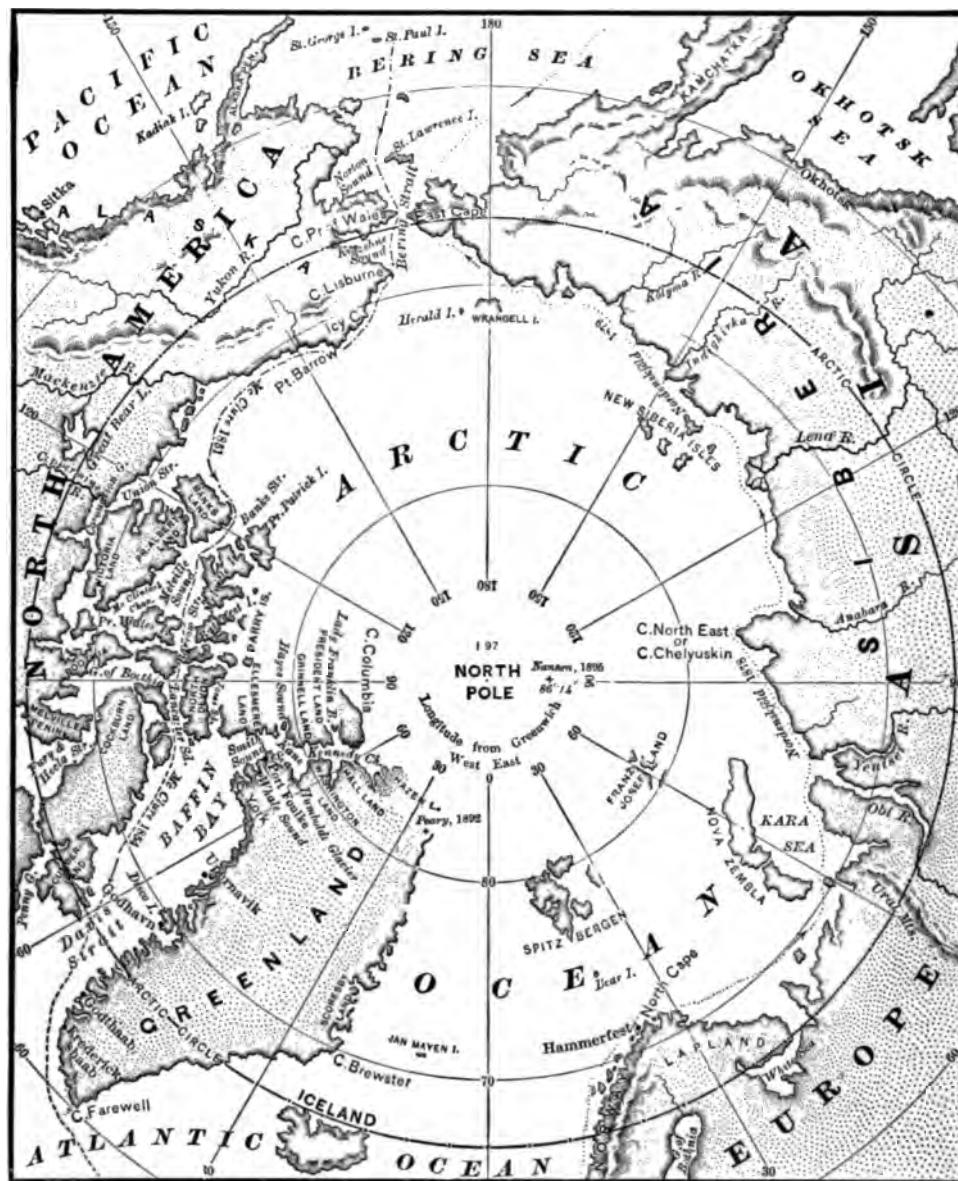
In 1576 Frobisher made three voyages to the north-west, exploring, among other waters, the channel now known as Frobisher Strait. In 1585-7 Davis explored portions of the coast of Greenland, and the strait which bears his name.

In 1610 Hudson sailed up the strait named after him, into Hudson Bay; but his crew mutinied, and set him adrift to perish. In 1616 Baffin explored the bay bearing his name, and entered the mouth of Lancaster Sound. In 1789 Mackenzie, in a land expedition, discovered and traced to its mouth the river called after him. In 1819 Parry traversed Barrow Strait, and penetrated as far north as the Parry Islands.

In May, 1845, the ill-fated expedition of Sir John Franklin set sail in search of the North-west passage, in the ships *Erebus* and *Terror*. These vessels were last seen in July of that year, by a whaling-ship, about the middle of Baffin Bay. Several years having elapsed with no tidings of this expedition, numerous parties were despatched during the next ten years in search of Sir John Franklin and his associates. Among these expeditions may be mentioned those of Kane, De Haven, Ross, Belcher, Englefield, McClintock, and McClure; the latter officer, in command of the ship *Investigator*, being the first explorer who traversed the entire region from Bering Strait to Baffin Bay. (See map.) In 1855 McClintock

discovered proofs that all of Sir John Franklin's party had perished from hunger and exposure, and documents showing that Sir John was the first discoverer of the North-west passage.

4. **North-east Passage.**—Very soon after the first efforts to find a North-west passage were begun, a series of expeditions having in view the opening of an ocean route to the East Indies by sailing around the northern coasts of Europe and Asia was undertaken by various European nations.



MAP OF THE ARCTIC REGION.

Details.— Among these may be mentioned the expeditions of Sir Hugh Willoughby (1553), who penetrated to Nova Zembla, but was driven back by ice, and perished with his crew; of Barentz (1594-6), a Dutch explorer, who died between Nova Zembla and Lapland; of Henry Hudson (1608-9), who vainly attempted the North-east passage; and of Bering (1741), who set sail from a harbor in Kamchatka, but perished during the voyage.

5. Its Discovery.— The practicability of a north-east passage from western Europe to eastern Asia was demonstrated in 1878-9 by the Swedish explorer, Professor Nordenskjöld.

Details.— Professor Nordenskjöld set sail from Gottenburg, Sweden, in July, 1878, and, after rounding North Cape, held his course eastward to W. long. 177°. Here his vessels wintered in the pack-ice until midsummer of 1879, when they were released. Resuming the voyage, he sailed through Bering Strait into

In 1860 Dr. Hayes, who had accompanied Kane, organized an expedition under his own command. The vessel was *nipped* in the ice about lat. 78°; from there by way of Grinnell Land, Hayes, with one companion, reached lat. 81° 35', the most northerly land reached up to that time.

In 1871 Capt. Hall, in the "Polaris," pushed northward up the western shore of Smith Sound, reaching 82° 16' in Robeson Channel.

In 1875 Capt. Nares, in the vessels "Alert" and "Discovery," left England commissioned to attain the highest possible northern latitude. Passing through Smith Sound the expedition wintered in lat. 82° 27'. Commander Markham, with an exploring party, reached the latitude of 83° 20' 30".

In 1881 a United States Expedition, under Lieut. A. W. Greely, established a station for three years' scientific observation, in Grinnell Land, lat. 81° 44'. In May, 1882, his officers, Lockwood and Brainerd, reached lat. 83° 23' 48".

In 1892 Lieut. Peary, U. S. N., undertook a sledge journey across the inland ice-cap of northern Greenland. On this expedition he succeeded in reaching latitude 82° N., the highest point yet attained on the east coast.



the Pacific Ocean, and reached Yokohama in September, 1879.

6. Polar Expeditions.— Among the aims of Arctic exploration that of reaching the North Pole has long been a leading one. Many expeditions having that object in view have been sent out. The principal of these are the American expeditions under Kane, Hayes, and Hall, the English expedition under Capt. Nares, and that of the Norwegian explorer, Dr. Nansen.

Details.— In 1853 Dr. Kane, who had formed the opinion that around the North Pole was a great open sea, headed an expedition to verify his theory. The expedition wintered in lat. 78° 37'. During the following spring various sledging tours to the north were made. On one of these Kennedy Channel was discovered, and the party penetrated as far as Cape Constitution (in Washington Land) in lat. 81° 27'. The open channel abounded with animal life, such as bears, birds, and seals.

In April, 1895, the Norwegian explorer, Dr. Nansen, got within 261 statute miles (86° 14') of the North Pole, the highest latitude ever reached by man.

II. ANTARCTIC REGION.

7. Extent.— Very little is known of the Antarctic region. The land surface is small, and is loosely though commonly spoken of as the Antarctic Continent.

Details.— Various exploring expeditions, American and foreign, have been sent out for purposes of Antarctic discovery. It is now regarded as extremely doubtful if there exists in these regions any such extent of land surface as would deserve to be called a continent. In 1841 an English expedition under Capt. Ross explored the steep and rocky coast known as Victoria Land, discovering an active volcano, which he named Mount Erebus. No important discoveries have been made in Antarctic seas since the American expedition under Wilkes in 1842. So far as is known, the Antarctic Continent, so called, is devoid of human population.



ANIMALS OF THE ARCTIC REGION.



QUESTIONS ON THE MAP.

North America.—What eight Atlantic ports of North America can you name? What five Gulf ports? What three ports in the West Indies? What two ports on opposite sides of the Isthmus of Panama? Name four seaports on the Pacific coast of North America. What two shipping points on the St. Lawrence? Name three commercial centers in the Mississippi Valley. What are the principal steamer routes from the Atlantic ports of North America? From the Gulf ports? From the Pacific ports? What is the shortest steamer route between

North America and Europe? The longest? What is the length of the sailing route from New York to Cape Town? What is the length of the steamer route from New York to Havana? From New York to Colon? By how many submarine cables has North America communication with Europe? What steamer line from New Orleans to Europe? How are the West Indies connected with the telegraphic system of the United States? By what two steamer routes does San Francisco communicate with Eastern Asia? A steamer from New York lands merchandise at Colon: how does this merchandise reach San Francisco? By what

railroad route or routes does tea brought from the Pacific mail-steamers to San Francisco reach the Atlantic seaboard?

South America.—What two South American ports are on the Caribbean Sea? Name the Atlantic ports of South America. Five Pacific ports of South America. What steamer connects South America with the United States? Where? From what South American ports do steamers make the voyage to Europe? What are the termini of the submarine cable between America and Europe? What telegraphic connection between Havana and Valparaiso?



ope. — What is the most northern seaport of Europe? What are the principal continental European seaports on the Atlantic or its arms? Name the seaports of the British Isles. What are the seaports of the Mediterranean? Of the Black Sea? What are the principal steamer routes from Europe to North America? To the West Indies? To South America? How many miles does a steamship make in the voyage from Liverpool to San Francisco? What class of vessels circumnavigate Africa? What is the shortest steamer route between the ports of Western Europe and Eastern Asia? What canal do steamers pass

through? What telegraphic communication between England and Bombay? England and Singapore? England and Hongkong? England and Melbourne? What telegraphic communication has Russia with its Pacific coast ports? **Asia.** — What is the principal seaport on the Mediterranean? In Southern Arabia? What three ports on the Arabian Sea? What two on the Bay of Bengal? What port in Ceylon? What four ports in Indo-China? What are the chief ports of China? Of Japan? What peninsula of Asia is crossed by a railway? What are the principal caravan routes of Asia?

Africa. — Name three African ports on the Mediterranean. Six on the Atlantic coast. What seaport at the southern extremity of Africa? What six on the eastern coast? What are the principal caravan routes of Africa? **The Archipelagoes.** — What port in Java? In the Philippine Islands? What are the principal seaports of Australia? Of New Zealand? What port in Tasmania? In the Hawaiian Islands? In the Society Islands? At what ports do steamers touch in going from Sydney to San Francisco? What steamer route between Australia and South America?

COMMERCIAL CENTERS AND THEIR EXPORTS.

Acapulco	SILVER, COPPER, SKINS, COCOA, INDIGO, MAHOGANY, DRUGS.	Liverpool	IRON, CUTLERY, EARTHEN-WARE, COTTONS, CHEMICALS, COAL.
Adelaide	WOOL, WHEAT, COPPER.	London	BRITISH MANUFACTURES, FOREIGN AND COLONIAL PRODUCTS.
Aden	COFFEE, DATES, DRUGS, PEARLS.	Madeira Isles	WINES, FRUITS, NUTS.
Alexandria	GRAIN, COTTON, DATES, DRUGS.	Malaga	ORANGES, WINE, RAISINS.
Algiers	GRAIN, CATTLE, CORK, COPPER, DATES.	Manila	SUGAR, TOBACCO, CIGARS, HEMP, COFFEE, INDIGO.
Amsterdam	BUTTER, CHEESE, SILK MANUFACTURES, SPICES.	Marseilles	WINE, BRANDY, SARDINES, SILK, FRUITS.
Archangel	FLAX, HEMP, SKINS, FOREST-PRODUCTS, TALLOW.	Mauritius Island	SUGAR, VANILLA.
Astrakhan	FISH, OIL, LAMB-SKINS.	Melbourne	GOLD, TIN, WOOL, WINE.
Auckland	WOOL, GOLD, LUMBER, FLAX, CATTLE-PRODUCTS.	Mobile	COTTON, FOREST-PRODUCTS.
Azore Isles	WINE, ORANGES, LEMONS.	Monrovia	PALM-OIL, WAX, PEPPER, GROUND-NUTS.
Bahia	SUGAR, TOBACCO, DIAMONDS, NUTS.	Montevideo	CATTLE-PRODUCTS, WOOL.
Baltimore	TOBACCO, WHEAT, PETROLEUM, OYSTERS, COAL.	Montreal	BREAD-STUFFS, FOREST-PRODUCTS, DAIRY-PRODUCTS.
Bankok	RICE, SPICES, SUGAR.	Morocco	GOAT-SKINS, WOOL, BEANS, ALMONDS, MAIZE, OLIVE-OIL.
Barcelona	WINES, CORK, IRON, COPPER, QUICKSILVER, DRIED FRUITS.	New Orleans	COTTON, SUGAR, RICE, TOBACCO.
Batavia	SUGAR, COFFEE, RICE, INDIGO, TOBACCO.	New York	GRAIN, VARIED MANUFACTURES, PETROLEUM, PROVISIONS.
Bergen	LUMBER, FISH, ICE.	Odessa	WHEAT, TALLOW, SALT, TIMBER.
Bombay	COTTON, OPIUM, COFFEE, SPICES, SUGAR, INDIGO.	Okhotsk	FURS, FISH-OILS.
Bordeaux	WINES, BRANDIES, PRESERVED FRUITS AND MEATS.	Oporto	WINE, OLIVE-OIL, FRUITS, CORK.
Boston	VARIED MANUFACTURES, PREPARED FOODS, ICE.	Panama	COTTON, COFFEE, CINCHONA-BARK, TOBACCO.
Bremen	LINEN AND WOOLEN GOODS, GLASS, WINE, BEER, GRAIN.	Para	CAOUTCHOUC, CACAO, RICE, SUGAR, TAPIOCA, DRUGS.
Buenos Ayres	WOOL, CATTLE-PRODUCTS.	Paris	VARIED FRENCH MANUFACTURES AND PRODUCTS.
Bushire	SILK, SHAWLS, CARPETS, WOOL, DRUGS, DRIED FRUITS.	Pernambuco	COTTON, COFFEE, SUGAR.
Calcutta	COTTON, OPIUM, RICE, TEA, JUTE, INDIGO, SUGAR.	Philadelphia	IRON, COAL, PETROLEUM, MACHINERY.
Callao	GUANO, SALTPETER, CINCHONA-BARK, WOOL, SUGAR.	Portland, Me.	LUMBER, STAVES, CASKS, ETC.
Canary Isles	COCHINEAL, FRUITS, VEGETABLES, SODA.	Portland, Or.	WHEAT, FLOUR, SALMON, LUMBER.
Canton	TEA, SILK, CHINESE WARES.	Quebec	SHIPS, LUMBER, GRAIN, FISH.
Cape Town	WOOL, HIDES, OSTRICH PLUMES, WINE, COPPER, DIAMONDS.	Rangoon	RICE, TEAK-WOOD, BAMBOO, COTTON.
Cartagena	CINCHONA-BARK, COFFEE, COTTON, TOBACCO.	Reykjavik	OIL, FISH, EIDER-DOWN, FEATHERS.
Cayenne	SUGAR, COFFEE, COTTON, PEPPER, AND OTHER SPICES.	Riga	GRAIN, HEMP, FLAX, LUMBER.
Charleston	COTTON, RICE, PHOSPHATE ROCK.	Rio Janeiro	COFFEE, GOLD, DIAMONDS, TOBACCO, HIDES.
Chicago	GRAIN, PORK, LUMBER.	Rome	PICTURES, STATUES, AND OTHER OBJECTS OF ART.
Cincinnati	GRAIN, PORK, FLAX, TOBACCO.	San Francisco	WHEAT, WOOL, WINES, PRECIOUS METALS.
Constantinople	GRAIN, TOBACCO, DRUGS, FRUITS, CARPETS, SILKS.	Savannah	COTTON, LUMBER.
Dantzic	GRAIN, LUMBER, BEER, WOOLENS, LINENS.	Shanghai	TEA, SILK, COTTON, CHINESE WARES.
Galveston	COTTON, GRAIN, WOOL, CATTLE-PRODUCTS.	Sierra Leone	PALM-OIL, TIMBER, GINGER, PEPPER, BEESWAX, IVORY.
Genoa	SILKS, OLIVE-OIL, WINE AND SPIRITS, FRUITS.	Singapore	TIN, SPICES, RATTANS, GUTTA-PERCHA.
Georgetown	SUGAR, COFFEE, COTTON, INDIGO, SPICES.	Smyrna	FIGS, RAISINS, SPONGES, RAW SILK, CARPETS, DRUGS.
Glasgow	IRON AND COTTON MANUFACTURES, IRON SHIPS, CHEMICALS.	Stettin	GRAIN, OIL-CAKE, WOOL, BEER.
Guayaquil	COCOA, CINCHONA-BARK, DYE-STUFFS.	St. Johns, N.F.	COD-FISH, SEAL-SKINS, COD AND SEAL OIL.
Halifax	DRIED FISH, COAL, GYPSUM, GRINDSTONES, LUMBER.	St. Louis	GRAIN, MACHINERY, MANUFACTURES.
Hamburg	LINEN AND WOOLEN GOODS, GLASS, WINE, BEER, GRAIN.	St. Paul de Loanda	WAX, IVORY.
Havana	SUGAR, COFFEE, TOBACCO, CIGARS.	St. Petersburg	TALLOW, FLAX, HEMP, LEATHER, FURS, SKINS.
Havre	ARTICLES OF TASTE AND FASHION, WINE, BRANDY, OIL.	Sydney	WOOL, CATTLE-PRODUCTS, TIN, COPPER, GOLD.
Hongkong	TEA, RAW SILK, CHINESE WARES.	Tamatave	CAOUTCHOUC, CATTLE, HIDES, WAX, EBONY-WOOD.
Honolulu	SUGAR, COCONUT-OIL.	Trieste	GRAIN, FLOUR, LUMBER, WINE, OIL.
Irkoutsk	(FROM CHINA TO RUSSIA) TEA, FRUITS, PORCELAIN, SILK.	Valparaiso	GRAIN, COPPER, SILVER, WOOL, HIDES.
Jamaica	SUGAR, RUM, MOLASSES, COFFEE, ALLSPICE.	Vera Cruz	COFFEE, VANILLA, HIDES, TOBACCO, COCHINEAL, INDIGO.
La Guayra	COFFEE, COCOA, INDIGO, CATTLE-PRODUCTS.	Victoria, B. C.	FUR-SEAL SKINS, LUMBER, COAL, CANNED SALMON.
Lisbon	WINE, OLIVE-OIL, FRUITS, SALT.	Vienna	LEATHER GOODS, GLASS-WARE, MUSICAL INSTRUMENTS.
		Yakoutsk	FURS.
		Yokohama	SILK, TEA, RICE, JAPANESE GOODS.

QUESTIONS ON THE TABLE.

What are the principal grain ports of the world? From what ports is wheat shipped? Flour? Rice? What cities export sugar? Tea? Coffee? Cocoa? Fruits? Wines? Beer? Olive-oil? From what ports do we receive drugs? What ports of the Old World send out spices? What ports of the New World? Through what European port do we receive the spices of the Dutch East Indies? *Ans.* Amsterdam. What cities export salt? Fish? Dairy-products? Tobacco?

Enumerate the cotton ports of the world. From what ports are cotton goods shipped? What cities send out wool? What are the principal centers in the export of woollen goods? From what ports is silk procured? In

what part of the world are these ports? Whence do we obtain linen goods? What ports are named as sending out shawls? Leather and leather goods? Furs? Where do ostrich plumes come from?

What ports can you name from which lumber is exported? Whence do we procure ornamental woods? Rattans? Bamboo? What ports are named as shipping forest-products? Caoutchouc? Gutta-percha? Cork? Petroleum? Pearls? Sponges? Cattle-products? Guano? Eider-down?

Name several ports through which iron and iron manufactures are distributed. What ports are named as shipping coal? In what countries, therefore, is coal largely found? Copper? Tin? What cities export the precious metals? Soda? Gypsum? Judging from the places of export, in what country are diamonds found?

A SYSTEM OF MAP-DRAWING.

BY E. A. AND A. C. APGAR.

This system of Map-Drawing is substantially the same as that originally prepared by the authors and published in 1865. Such improvements have been introduced, however, as the practical workings of the system have shown to be important.

SUGGESTIONS TO TEACHERS.

THE study of geography consists principally in a study of the form and locality of the features of the earth's surface. Maps give a much better idea of the form and locality of geographical features than can be obtained from descriptions only; hence, maps should be the principal objects of study in geography.

The pupil commits his lesson in text to memory, and for a recitation, he repeats it to the teacher as given by the author. In studying maps the same rule should be observed; that is, the maps should be committed to memory, and for a recitation they should be reproduced as given in the book.

That form is easiest remembered which the hand is taught to trace. The exercise of the mind, needed to teach the hand to trace a form, impresses that form upon the mind. As the study of maps is a study of form, the manner of studying them should be by map-drawing.

In learning to draw maps, the pupil needs some rule or guide to assist him in drawing them correctly, and also to enable him to judge of their accuracy when drawn. This assistance is best afforded by the use of geometrical figures or diagrams. The diagram used in each case, in order to answer the purpose intended, should be so constructed as to coincide as nearly as possible in its outline with the boundaries of the map to be drawn. By the relative lengths of the lines of which it is composed, it should express the general laws of form of the map it is intended to accompany, and, by its angles and division marks, the position of prominent features should be determined. However complex and irregular the map may be, the diagram should be so simple that it can be readily constructed and easily remembered by the pupils.

In the construction of the diagrams used for drawing the Continents, the first line in each case serves as a measure for determining the lengths of the other lines. For the States *no additional diagram is used*, because the bounding lines are generally straight, and they themselves when taken together form a geometrical figure. In drawing the States, therefore, it is only necessary to select one of the straight lines forming the boundary for a measuring unit. The line selected should be a convenient measure or multiple of the other lines.

In conducting exercises in map-drawing, the class should be practiced,—*first* in drawing upon the blackboard, under the immediate direction of the teacher; *second*, in drawing upon slates, their work to be submitted to the teacher; and *third*, in executing maps upon paper, to be presented for the criticism of both the teacher and the class.

Either the teacher or one of the more skillful pupils should execute a well-finished and accurate map upon the blackboard. From this drawing—which is much to be preferred to any printed outline map—the class may recite their lesson, and upon it each of the new features, as they are learned from day to day, may be represented. It is well to accompany every lesson in map-drawing

with more or less practice in rapid sketching. In order to excite emulation for quick work, the lesson may be drawn on the board, and the exercise timed by the teacher. Pupils, by practice, will soon be able to draw a diagram in half a minute, a State in from half a minute to two minutes, and a Continent in from three to five minutes. Concert recitation should frequently accompany rapid sketching.

An exercise called *talking and chalking* will be found both interesting and valuable. The pupil, while he is drawing a map, briefly and in a lively manner, describes the features as he represents them; his verbal explanations all the while keeping pace with his illustrations made with the chalk.

All directions and exercises in map-drawing should be such as to prepare the pupil to draw rapidly, accurately, and *without the copy*.

After the pupils have learned to draw a map with sufficient accuracy, and are able to describe satisfactorily the features it contains, they may, with the use of colors and India ink, be taught to draw and embellish one for preservation. *Not much time, however, should be spent in producing highly ornamented maps.* A slate-pencil and slate, lead-pencil and paper, white crayon and blackboard, are all the materials usually needed in map-drawing exercises. Rapid work and much of it should be the motto.

Special attention should be directed to the method employed for representing the population of cities and the heights of elevations. The symbols used will greatly assist the memory in retaining these facts. Special lessons may be given to teach their meaning. Their use should be required in all map-drawing exercises.

In drawing a Continent, the pupils should be taught,—*first*, to construct the diagram accurately; *second*, to draw the coast line, and to describe all the features formed by it, such as peninsulas, capes, bays, gulfs, &c.; and *third*, to draw and describe the internal features, such as mountains, lakes, rivers and cities. It is all important that the pupils should be able to draw the outline of a Continent readily and accurately, before they attempt to represent the internal features; for upon an imperfect drawing of the outline, the details must necessarily be imperfect.

In describing the features of a map, observe the following order and directions:—

Diagram.—Explain in full the manner of its construction.

Points of Coincidence.—Name in order the angles and division marks upon the diagram, and the features upon the map, the location of which they determine.

Peninsulas.—State from what portion of the Continent they project, and by what waters they are embraced.

Capes.—State from what portion of the Continent they project, and into what waters.

Bays.—Give their location, and the names of the bodies of water to which they are tributary.

Islands.—State where situated, and name the waters by which they are surrounded.

Mountains.—Give their height, the general direction in which they extend, and the part of the Continent where they are located.

Lakes.—State where located, and name the river which forms the outlet.

Rivers.—State where they rise, in what direction they flow, and into what waters.

Political Divisions.—Bound the country, and name, bound, and give the capital of each of the divisions.

Cities.—Give location and population.

EXPLANATION OF THE SIGNS USED TO REPRESENT THE POPULATION OF THE CITIES AND TOWNS.

FIRST CLASS.

In the First Class only one Sign is used viz. a round dot.
● represents under 10,000 Inhabitants.

SECOND CLASS.

Each Line of the Second Class represents a population of 10,000.

○ 10,000
+ 20,000
tt 30,000
..... 40,000
..... 50,000
..... 60,000
..... 70,000
..... 80,000
..... 90,000

THIRD CLASS.

The markings of the Third Class have a Dot in the centre. Each Line upon this Dot represents 100,000 population.

● 100,000
+ 200,000
tt 300,000
..... 400,000
..... 500,000
..... 600,000
..... 700,000
..... 800,000
..... 900,000

FOURTH CLASS.




The markings of the Fourth Class have a Dot and Circle (●) in the centre. Each Line upon this Dot and Circle represents 1,000,000 inhabitants.

● 1,000,000
+ 2,000,000
+ 3,000,000
+ 4,000,000

EXPLANATION OF THE SIGNS USED TO REPRESENT THE ELEVATION OF THE MOUNTAINS.

RANGES.

Hill and Mountain Ranges, Like the Cities, are divided into Four classes. The First is represented by a series of Parallel Curves; the Second by a series of Interlocking Curves; the Third by a Waved Line; and the Fourth by a Zigzag Line; as follows:

))))))))) First Class or Hills.—Under 2000 ft. high.
 Second Class.—Between 2000 & 8000 ft. high, or Between 1/4 and 1 1/4 miles high.
 Third Class.—Between 8000 & 16,000 ft. high, or Between 1 1/4 and 3 miles high.
 Fourth Class.—Over 16,000 feet high, or over 3 miles high.

PEAKS.

For Peaks under one mile high each Curve upon the right represents One-Fourth of a mile Elevation; for those one mile high or more, each Line upon the right represents One Mile in Elevation and the Dash underneath One Half a Mile.

∪ 1/4 of a mile high. ▲ 3 1/2 miles high.
∪ 1/2 " " ▲ 4 " "
∪ 3/4 " " ▲ 5 " "
∪ 1 " " ▲ 6 " "
∪ 1 1/4 miles high. ▲ 7 " "
∪ 2 " " ▲ 8 " "

System Patented October 16th., 1866.

DIRECTIONS FOR DRAWING NORTH AMERICA.

Diagram.—1. Draw a quadrant, and divide it into four equal parts, as represented in the figure. Through the first division at *x*, and the right angle, draw the first line of the diagram the length desired for the map.

2. From the centre of this line, draw the line *CD* at right angles with it, and one-half its length. Connect *A* and *B* and *B* and *D*.

3. Extend the line *CD* toward *E*, making the whole length *DE*, equal to *AD* or *BD*, and draw the lines *AE* and *EB*.

4. Divide the line *AE* into four equal parts, and from the upper division-point at *G*, draw the line *GH* at right angles to *AE*, and equal to *EC* in length. Connect *A* and *H*.

5. Divide the line *EB* into two equal parts, and from its centre, and at right angles with it, draw the line *IJ* one-half the length of *EC*, and connect *E* and *J*, and *J* and *B*.

6. Divide the lines *CD* and *CB* each into two equal parts, and the lines *AD* and *DB* each into six equal parts.

7. Sub-divide the lower division of the line *DB* into three equal parts, and from the division-point at *L* draw *LM*, and from *M* draw *MN*, and from *N* draw *NO*,—making the length of each line equal to two thirds of the distance from *B* to *K*, or equal to the distance from *L* to *K*.

It will be observed that if the diagram is correctly drawn, the lines *DA*, *DE* and *DB* are equal in length, and the line *AE* is vertical.

Position.—North America is situated North of the Equator, and is joined to South America by the Isthmus of Panama.

Extent.—The length of the Continent, extending from Point Barrow, on the North, to the Port of Guatemala on the South, is 4,800 miles.

General Form.—The general form of North America is triangular. It is wide toward the North, and narrow toward the South. The Arctic and Atlantic coast-lines are nearly straight in their general direction, while the Pacific coast-line is curved.

Points of Coincidence.—The position of Point Barrow is determined by the northern angle of the diagram; Cape Charles by the eastern angle; Port of Guatemala by the southern angle; Bay of San Francisco by the western angle; and the western extremity of Alaska Peninsula by the north-western angle.

*** Drawing the Map.**—*Arctic Coast.*—Commence at Point Barrow. Make the mouth of the Mackenzie River opposite the first division; Victoria Land on the second; the mouth of Hudson Bay between the third and fourth, and Ungava Bay and Cape Chudleigh near the fifth division. The southern extremity of Hudson Bay touches the line *CD* near its centre.

Atlantic Coast.—Make the Pena. of Nova Scotia opposite the first division; Cape Cod north of the second, and Cape Fear at the third. The western shore of Florida crosses at the fourth division; the mouth of the Gulf of Mexico is between the fourth and fifth, and Yucatan Pena. extends as far north as the fifth. The shore of the Gulf of Mexico crosses the line *CB* near its centre, and touches the line *EB*. The shore of Central America, and the Isthmus of Panama follows closely the zigzag line from *K* to *O*.

Pacific Coast.—California Peninsula extends nearly as far south as the angle at *J*, and the eastern shore of the Gulf of California crosses the line *IJ* near its centre.

Note.—It will be observed that the Lake of the Woods is on the line *CD*, midway between its centre and *C*; also, that Lake Erie is midway between the centres of the lines *CD* and *BD*.

* In these directions for drawing, some features are referred to which are not found upon the accompanying maps. In such cases it is expected that the pupil will refer to the other maps in the book.

DIRECTIONS FOR DRAWING SOUTH AMERICA.

Diagram.—1. Draw the vertical line *AB* the length desired for the map, and divide it into four equal parts. From the upper division-point, draw a horizontal line to the right, one-half the length of the first line, and divide it into three equal parts. Extend this horizontal line one-third of its length to the left.

2. Draw straight lines from *C* to *F*, from *F* to *A*, from *A* to *E*, and from *E* to *B*, and divide the lines *FA*, *AE*, and *EB*, each into three equal parts.

General Form.—South America in its general form is wedge-shaped—being wide toward the north and narrow toward the south. Its coast-line is simple, and deviates but little from the lines of the diagram. The length of the Continent from north to south is 4,500 miles.

Points of Coincidence.—The position of the Peninsula of Paragana is determined by the northern angle of the figure; Cape St. Roque by the eastern angle; Cape Pillar by the southern, and Cape Parana by the western. Opposite the second division-point, on the line *FA*, is the Isthmus of Panama; and opposite the second, on the line *AE*, is the mouth of the Amazon. Opposite the first division on the line *EB* is Cape Frio, and opposite the second is the mouth of the Rio de la Plata.

DIRECTIONS FOR DRAWING AFRICA.

Diagram.—1. By means of a quadrant divided into six equal parts, as represented in the figure, draw the first line of the diagram the length desired for the map.

2. Divide this line into two equal parts at *C*, and the upper half in four equal parts.

3. With the points *A* and *B* as centres, and with a radius equal to three-fourths of the first line, draw two arcs to intersect *D*, and draw the lines *AD* and *BD*. In the same manner with the points *A* and *C* as centres, and with a radius equal to three-fourths of the line *AC*, determine the point *E*, and draw *AE* and *CE*.

4. Divide the line *AD* into two equal parts, and draw the perpendicular *FH* equal to one-eighth of the first line. Divide the part *FD* into two equal parts, and draw the lines *AH* and *HG*. Trisect each of the lines *AE*, *DB*, *DC* and *CE*.

General Form.—Africa resembles both North America and South America in its general form, being wide at the north and narrow toward the south. Its coast is very regular, like that of South America. Its length, from Cape Sparte to Cape Agulhas, is 5,000 miles. Like South America, it is situated on both sides of the Equator.

Points of Coincidence.—The position of Cape Sparte is determined by the northern angle of the diagram; the Isthmus of Suez by the north-eastern angle; Cape Guardafui by the eastern angle; Cape Agulhas by the southern, and Cape Roxo by the western.

Outline.—Commence at Cape Sparte, and draw the northern and eastern coasts; then, from the same point, draw the western coast. The coast from Cape Sparte to Cape Bon is without the line of the diagram; then it crosses the line, and forms the Gulf of Sidra, opposite the second division-point. The western shore of the Red Sea follows the line *AG*, and makes an inward curve between *G* and *D*. The eastern shore first makes a small outward curve; touches the line at the first division-point, and then makes a much larger bend without the line, touching again at Cape Agulhas. From this point it deviates but little from the diagram till it reaches Cape Lopez. Between this point and the first division on the line *CE*, there is a large inward bend forming the Gulf of Guinea. It then bends without the line till we reach Cape Roxo. From Cape Roxo to Cape Sparte the coast is wholly without the line.



Fig. 1.

Figure 1 represents a convenient Ruler for pupils to use in drawing maps upon the blackboard. It is twenty inches long, and divided into halves, thirds, fourths and sixths. A similar one, six inches long, may be used for drawing on slate or paper.

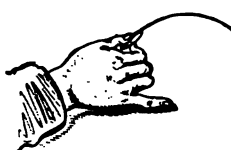


Fig. 2.

Figure 2 represents an easy method for drawing a quadrant.

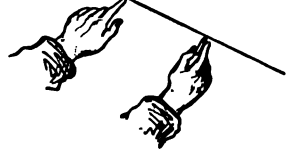


Fig. 3.

Figure 3 represents an easy method for trisecting a line.

Note.—In the construction of diagrams, and in the division of lines, the pupils should at first be allowed to use a ruler, such as the one represented in figure 1. After some practice, however, the ruler should be dispensed with, and the figures should be drawn by hand, guided only by the eye.

In drawing a quadrant, a piece of crayon held between the thumb and first finger may be made to describe the arc around the end of the fourth finger, as represented in figure 2. A vertical and a horizontal line drawn from the centre to the arc will complete the quadrant. Instead of the hand, a short string with a piece of crayon tied to the end of it may be used; or, each pupil may be furnished with a quarter of a circle, cut out of a piece of writing paper, having the divisions of quarters and sixths marked upon it.

In dividing a line into three equal parts, use the finger of one hand and a crayon in the other, and place them so that the three parts appear equal, as represented in figure 3.

In dividing a line into four or six parts, first bisect it, and then bisect or trisect each half.

It will be observed that the different lines of the diagrams are drawn in the order they are lettered, and that the divisions are made in the order they are numbered.

In drawing upon paper or slate, the diagram should be in very light lines. For blackboard work, the figure should be drawn with a slate-pencil.

MODEL LESSON IN MAP-DRAWING.

In Map-drawing Exercises, the pupils may either be required to describe their work in full, without the assistance of questions; or, the lessons may consist of a series of questions and answers similar to the following model:—

North America.—After the diagram is made, the class is prepared to draw the map,—first, with the atlas in hand, and afterwards from memory. Every order given by the teacher should be executed by the class simultaneously, and with military promptness and precision. The execution should commence immediately after the last word of the order is given. Each pupil is supposed to have his own diagram on the board upon which he draws his map.

Outline: Teacher.—What is the most northern point of North America?

Scholars.—Point Barrow.

T.—Show where Point Barrow is located. In what direction from it is Cape Charles?

S.—South-east.

T.—Point where Cape Charles is located. (Scholars point.)

Now make a dot showing the location of each of the following places between these two Capes:—1st. For Cape Bathurst. (Scholars made the dot with the crayon.) 2d. For Victoria Land. 3d. For the northern extremity of Melville Pena. 4th. For Hudson Strait. What large bay between Melville Peninsula and Hudson Strait?

S.—Hudson Bay.

T.—5th. For the southern extremity of Hudson Bay. (Dot.) 6th. For Cape Chudleigh. What baysouth-west from Cape Chudleigh?

S.—Ungava Bay.

T.—Draw the coast-line from Point Barrow to Cape Bathurst. (Scholars draw.) From Cape Bathurst to Victoria Land. From Victoria Land to Melville Peninsula. Draw Hudson Bay and James Bay. Draw the line from Hudson Strait to Cape Charles.

The teacher should now make a brief inspection of the work done, and point out and correct all the faults made.

In this manner the outline of North America should be completed.

Mountains: T.—How far do the Rocky Mountains extend?

S.—Through the entire length of North America.

T.—What is their elevation?

S.—Between 8,000 and 16,000 feet, except the northern portion, which is only between 2,000 and 8,000 feet.

T.—Draw the Rocky Mountains nearly parallel with, and at a proper distance from the Pacific Coast. What range in the eastern part of the Continent?

S.—The Appalachian Mountains.

T.—What is the elevation of this range?

S.—About 2,000 feet.

T.—Draw it. The teacher should now inspect the drawing of the mountains and correct mistakes.

Lakes: T.—What three lakes have their outlet through the Mackenzie River?

S.—Great Bear Lake, Great Slave Lake, and Athabasca Lake.

T.—Point where the first is located; the second; the third. Draw the first; the second; the third.

In this manner complete the drawing of the lakes.

Rivers: T.—Describe the Yukon River.

S.—It rises near the Pacific Coast and west of the Great Slave Lake; flows, first, in a north-westerly direction, then westerly through the country of Alaska, and empties into Bering Sea.

T.—Draw it. Follow in the same manner with the Mackenzie; Nelson; Albany; St. Lawrence; Ottawa; Savannah, and Alabama.

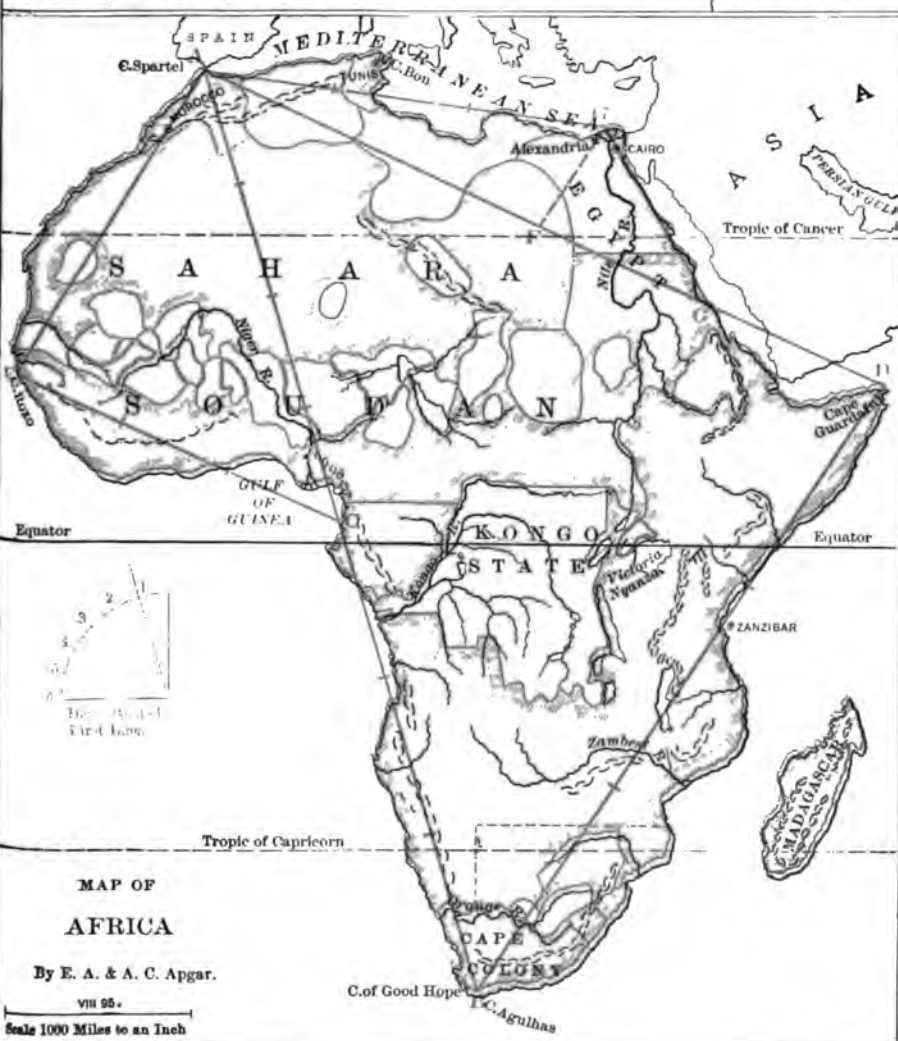
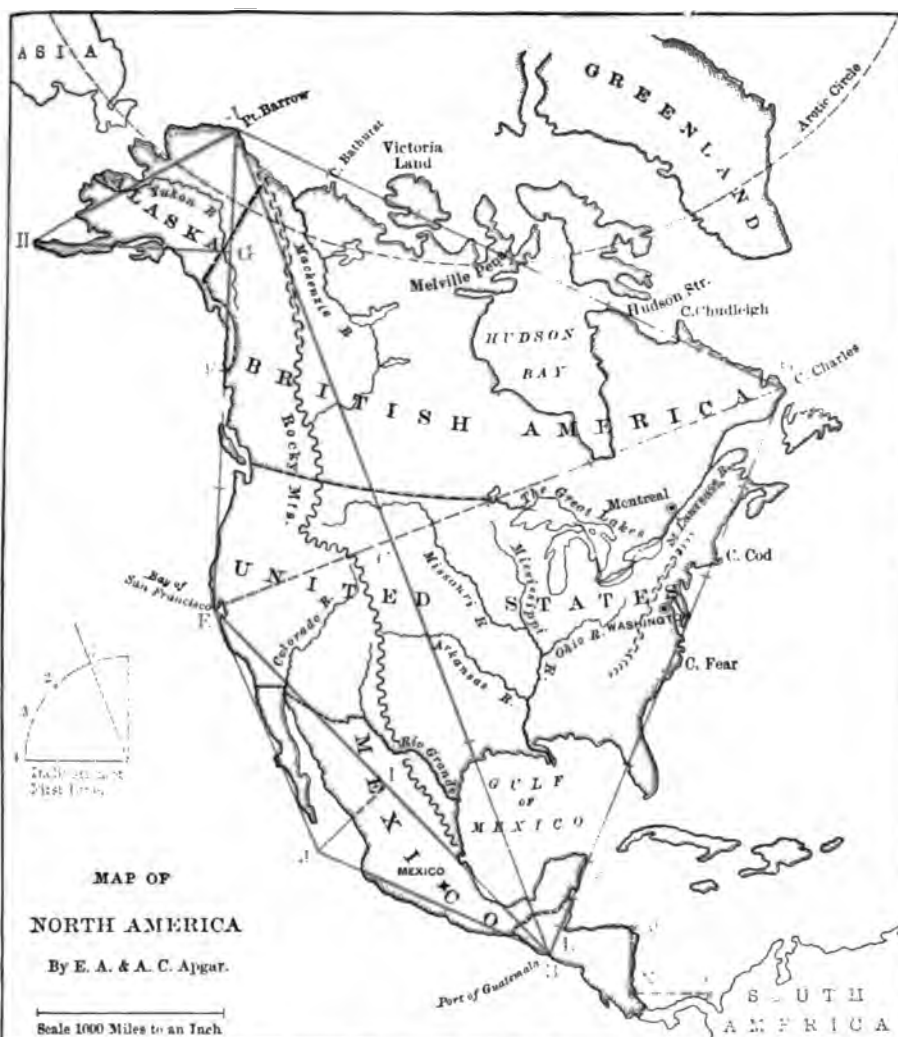
T.—Describe the Mississippi River.

S.—It rises in a small lake west of Lake Superior, and south of the Lake of the Woods; flows a southerly course through the United States, and empties into the Gulf of Mexico.

T.—Draw it. Draw the tributaries, and describe them.

Complete the rivers in this way, and inspect the work.

Cities: T.—Locate the cities as I name them, taking pains to show the population of each as it is done in the book.



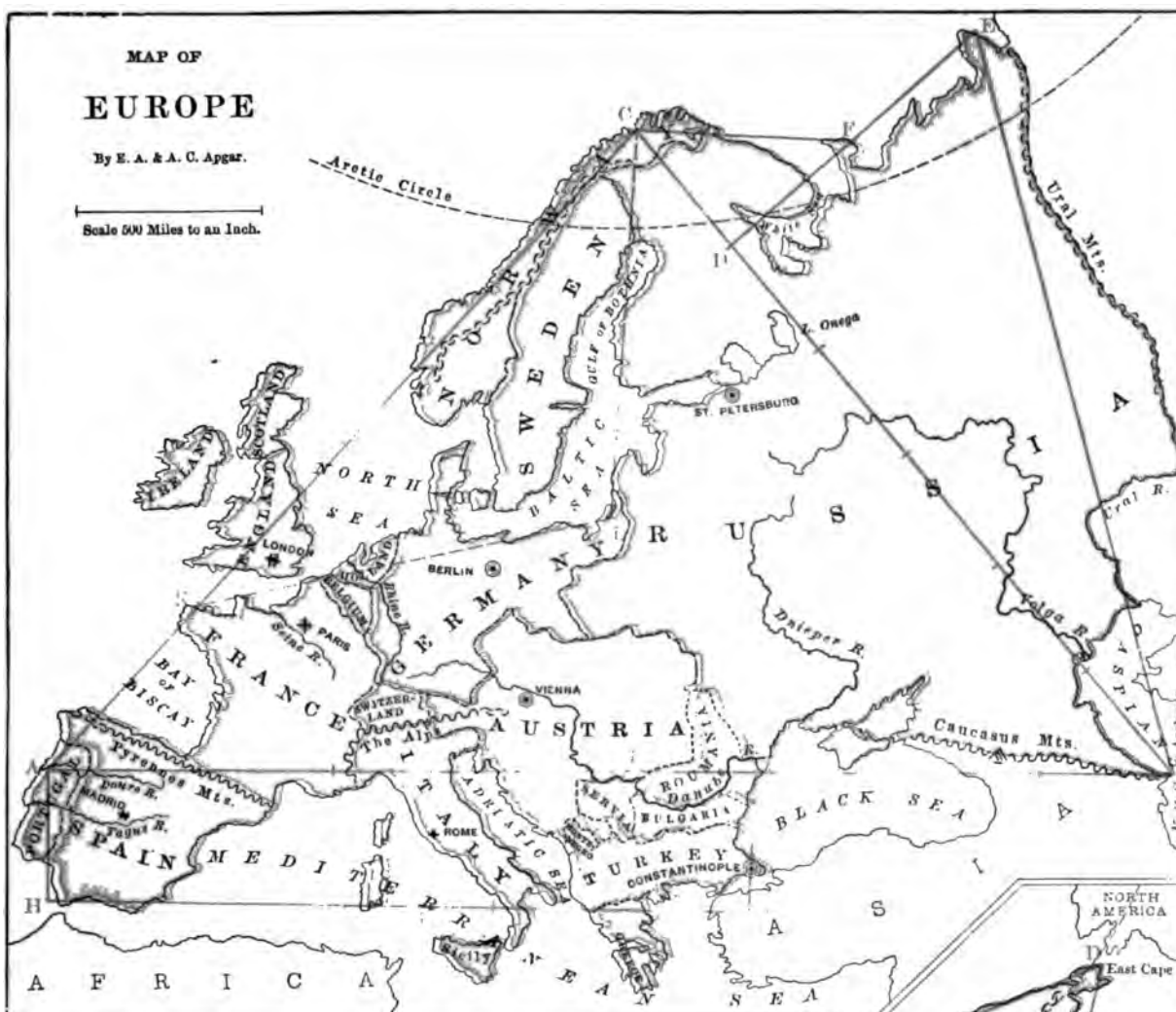
DIRECTIONS FOR DRAWING AUSTRALIA.

- Diagram.**—1. Draw the horizontal line *AB* the length desired for the map, and bisect it at *C*.
2. Through the centre *C* draw the line *DE* at right angles to *AB*, making *CD* and *CE* each one-third the length of *AB*.
3. Draw *DF* at right angles to *DE*, and one-fourth the length of *AB*, and connect *F* and *B*.
4. Draw *GH* at right angles to *DE*, making *GE* and *EH*, each equal to *FB* in length, and bisect the lines *CE* and *EH*.
Points of Coincidence.—North-west Cape coincides with the angle at *A*; Sandy Cape, with the angle at *B*; Cape Howe, with the angle at *H*; and Cape Leeuwin, with the angle at *G*. Cape York is a little north of the angle at *F*.
Map.—From *G* the coast extends toward the centre of the line *CE*, and from this point it extends toward and crosses near the bisecting point of the line *EH*. The Gulf of Carpentaria is situated between *D* and *F*, and extends toward the south nearly half way to the line *AB*.
Note.—If Australia is drawn without New Zealand, the first line *AB* should be inclined about five degrees from the horizontal, the extremity *A* being farther north than the extremity *B*.

MAP OF EUROPE

By E. A. & A. C. Appgar.

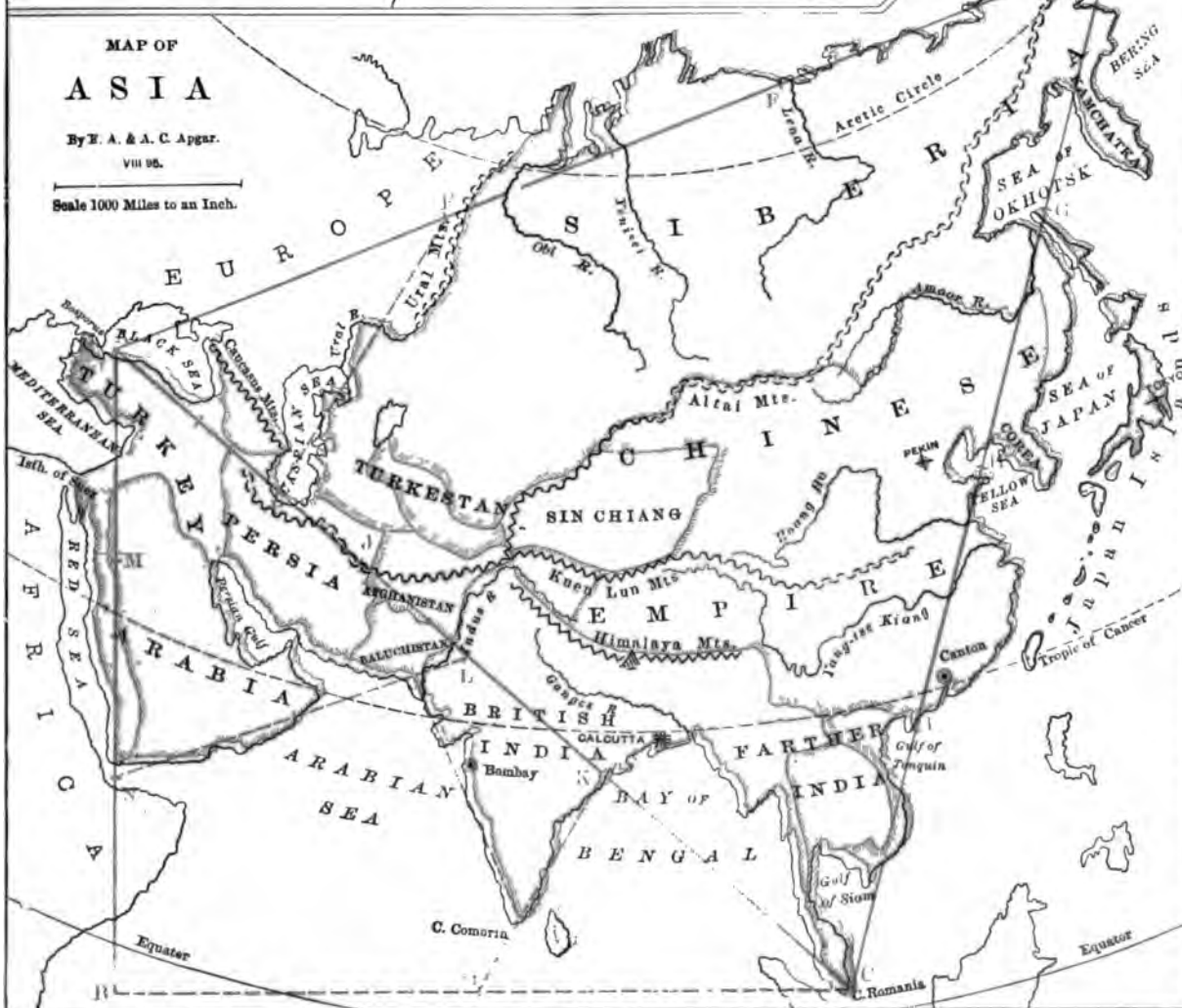
Scale 500 Miles to an Inch.



MAP OF ASIA

By E. A. & A. C. Appgar.
VIII 96.

Scale 1000 Miles to an Inch.



DIRECTIONS FOR DRAWING EUROPE.

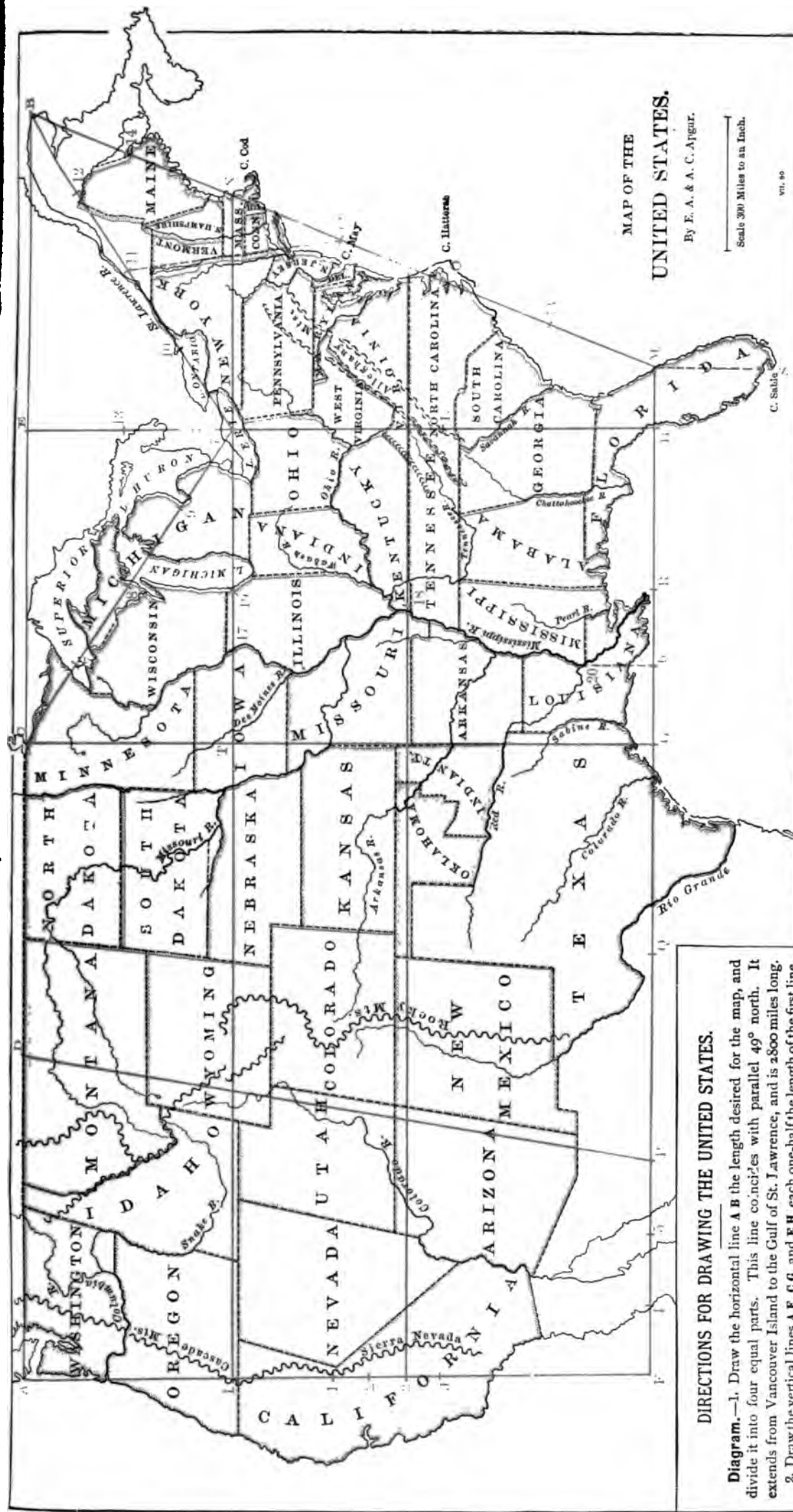
Diagram.—Draw the horizontal line *A B* the length desired for the map. This line connects the mouth of the Douro River with Cape Apsheron. Its length is 3,000 miles. With *A* and *B* as centres, and with a radius equal to three-fourths of *A B*, draw arcs to intersect at *C*, and connect *A* and *C*, and *B* and *C*. Divide *A C* into four, *C B* into six, and *A B* into eight equal parts. From the first division to the right of *C*, and from the angle *A* draw vertical lines, as shown in the figure, each one-eighth the length of *A B*. Connect *H* and *I*, and divide the right-hand half of this line into four equal parts. From *D* draw a perpendicular line equal to two and one-half divisions on the line *A B*, and bisect it. Connect *C* and *F*, and *E* and *B*. From *K* draw a line in the direction of the centre of *C B* until it meets a vertical line drawn from the angle *C*.

Map.—In drawing the map commence at *C*, on the coast of Norway, and draw, in order, the northern and eastern boundaries; then commence again at *C* and draw the western and southern boundaries. The coast of Norway follows the line *C A*, and extends south to a point about midway between *C* and *K*. The lines *C L* and *L K* will assist in drawing the Gulf of Bothnia, the Baltic Sea, and the north-western shores of Germany and France. The head of the Bay of Biscay is near the first division to the right of *A*, on the line *A B*. The gulfs of the Lion and of Genoa are on opposite sides of the second division, and the head of the Adriatic Sea embraces the third division. The fifth division marks the western extremity of the Black Sea; the Sea of Azov is north of the sixth division, and the eastern extremity of the Black Sea is near the seventh. Italy resembles in outline the shape of a boot. The southern extremity is between the first and second divisions to the right of *A* on the line *H I*. The Peninsula of Greece is situated between the second and third divisions, and extends south of this line equal to one division. The Sea of Marmora is a little north of *L*.

DIRECTIONS FOR DRAWING ASIA.

Diagram.—Draw the vertical line *A B* a little more than one-half the length desired for the map, north and south. Divide it into three equal parts, and the upper third into two parts. From the point *B* draw the horizontal line *B C* one and one-sixth times the length of *A B*. Bisect it, and connect *A* and *C*. Trisect *A C*, then bisect the middle division and trisect the upper. With the points *A* and *C* as centres, and with a radius equal to one and two-thirds times the first line, draw arcs to intersect at *D*, and connect *A* and *D*, and *C* and *D*. Trisect *A D* and bisect the middle division. Divide the line *C D* into four equal parts, and bisect both of the extreme divisions. Draw the lines *E F* and *N L* and bisect them; also one from *O* to *K* and trisect it. From the lower trisecting point on the line *O K* draw a line toward *J* till it meets the line *N L*. The distance measured by the line *A C* is 5,300 miles.

Map.—In drawing the map commence at East Cape and draw in order the eastern, southern, and western boundaries, including the Black Sea; then commence again at East Cape and finish the outline. The shore of Kamchatka crosses at the first division on the line *B C*; the southern shore of the Sea of Okhotsk is at *G*; the Yellow Sea is near the centre of the line at *H*; the Gulf of Tonquin is at *I*; and the Gulf of Siam is near the last division. If we suppose a line drawn from this division-point parallel with the line *A C*, it will assist in determining the position of the Gulf of Siam and the Bay of Bengal. Cape Romania coincides with the angle at *C*, and Cape Comorin with the lower division on the line *O K*. The head of the Persian Gulf is near the centre of the triangle *A N L*. The Strait of Babel-Mandeb is at *N*; the Isthmus of Suez between *A* and *M*; and the Strait of Bosphorus, at *J*. The Black Sea extends as far east as the first division on the line *A C*, and the Caspian Sea touches this line at the second division. The position of the Caspian Sea, the Ural River, and Ural Mountains is determined by the line *E C*.



DIRECTIONS FOR DRAWING THE UNITED STATES.

1. Draw the horizontal line **A B** the length desired for the map, and divide it into four equal parts. This line coincides with parallel 49° north. It extends from Vancouver Island to the Gulf of St. Lawrence, and is 2800 miles long.
 2. Draw the vertical lines **A F**, **C G**, and **E H**, each one-half the length of the first line, and connect **F** and **H**. Trisect the line **A F** at **I** and **J**, and the line **E H** at **K** and **L**.
 3. Draw the oblique lines **C K** and **B K**. Extend the line **F H** to **M**, making **G M** equal in length to the oblique line **C K**, and connect **B** and **M**.
 4. Trisect the line **B M** at **N** and **O**. Bisect the middle third of the line **A F** at **P**, and trisect the lower half at **2** and **3**. From the points **I** and **3** draw horizontal lines across the figure.
 5. Trisect **F G** at **P** and **Q**, and draw **D P**. Bisect **G H** at **R**. Trisect **F P** at **4** and **5**, and bisect **G R** at **6**. Divide each of the oblique lines, **C K** and **B K**, into four equal parts, and bisect the line **E K**. Also bisect each of the thirds on the line **B M**.
 6. Mark the point **17**, making its distance from **T** equal to one division on the oblique line **C K**, and also on the line below mark the point **18**, making its distance from **U** equal to one and one-half divisions on the oblique line. Bisect **T K** at **19**.
 7. Connect the points **11** and **15**. From **M** draw the line **M S** one-sixth the length of **B M**. From **6** draw a line north to **20**, equal in length to the distance from **G** to **6**.
- Outline.**—1. Draw the forty-ninth parallel from **A** to **C**, for the northern boundary of the States, and at **C**, the centre of the first line, locate the Lake of the Woods, and the St. Lawrence. Lake Superior crosses at **7**, and its northern shore touches the line **A B**. The western shore of Lake Michigan crosses at **8** and at **19**. Saginaw Bay touches at **9**, and the southern extremity of Lake Huron touches between **9** and **K**.

3. Lake Erie surrounds the point at **K**; the northern shore of Lake Ontario crosses at **10**, and midway between these points is the Niagara River. The northern part of Maine crosses at **12**.
4. The line **B M**, with its divisions, marks the direction of the Atlantic Coast, and the position of several important features. The eastern boundary of Maine crosses at **14**, and the southern coast crosses midway between **14** and **N**. At **N** the coast again crosses, and forms Cape Cod without the line. Opposite **15** is Delaware Bay, and at **O** is Cape Hatteras. From this point to **M** the coast makes quite a bend within the line.
6. At **S** is Cape Sable. The western shore of Florida crosses at **H**; at **R** is the mouth of the Mississippi, and near **G** is the coast of Texas. At **Q** is an important bend in the Rio Grande, and south of the middle point between **Q** and **G** is the mouth of this river. Between **4** and **5** is the Peninsula of California. The southern boundary of California is midway between **3** and **F**.
5. The western shore of California is west of the line **A F**, equal to the distance from **1** to **3**. San Francisco Bay is west of **2**, and the point where the coast crosses the line **A F** is south of **J**, equal to the distance from **3** to **J**.

- The States.**—After completing the outline, draw the Mississippi River, and then draw the States in the following order:—
1. The New England States.
 2. The Middle States.
 3. The Southern States, east of the Mississippi River.
 4. The Western States, east of the Mississippi River.
 5. The five States bordering the Mississippi on the west.
 6. California.
 7. Arizona, New Mexico, Indian Territory, Oklahoma, and Texas.
 8. Nevada, Utah, Colorado, and Kansas.
 9. Washington, Oregon, and Idaho.
 10. Montana, Wyoming, North Dakota, South Dakota, and Nebraska.
- Note.**—The Mississippi River rises a little south of the Lake of the Woods, and flows south-easterly, till it crosses the line **I N** at **17**. It here makes a curve to the east, and then a larger one to the west, and crosses at **18**. From this point to **20** it flows a little west of south. From **20** its course is south-east.
- The Eastern States are all east of the line from **11** to **15**. The Middle States are east of the line **E H**. The northern boundaries of Arkansas, Tennessee, and North Carolina coincide with the horizontal line drawn through **U**, and those of Arizona, New Mexico, Oklahoma, and Indian Territory are a little north of this line. The northern boundaries of California, Nevada, Utah, Indiana, Ohio, Pennsylvania, Connecticut, and Rhode Island are a little south of the line **I N**. The western boundaries of Missouri, Arkansas, and Louisiana coincide closely with the vertical line **C G**. The western boundaries of Wyoming, Colorado, and New Mexico lie in the direction of the line **D P**—that of Wyoming being west of it, and that of Colorado and New Mexico being east of it.

POPULATION OF THE PRINCIPAL CITIES OF THE WORLD.

RANK.—1, London; 2, New York; 3, Paris; 4, Canton; 5, Berlin; 6, Chicago; 7, Vienna; 8, Tokyo.

NORTH AMERICA.		GUIANA.		SCOTLAND.		DENMARK.		GREECE.		RUSSIA IN ASIA.	
DOMINION OF CANADA AND NEWFOUNDLAND.		Georgetown* 53,000 Paramaribo* 29,000 Cayenne* 12,000		Bristol 231,000 Nottingham 230,000 Bradford 229,000 Salford 211,000		Copenhagen* 313,000 Aarhus 33,000 Odense 30,000		Athens* 112,000 Patras 38,000		Tashkend 157,000 Samarcand 55,000 Irkoutsk 52,000	
Montreal 217,000 Toronto 181,000 Quebec 63,000 Hamilton 49,000 Ottawa* 44,000 St. John 39,000 Halifax 39,000 London 32,000 St. John's, N. F.* 29,000 Winnipeg 26,000		BRAZIL. Rio Janeiro* 523,000 Bahia 200,000 Pernambuco 190,000 Sao Paulo 100,000 Para 65,000 Porto Alegre 55,000 Parahiba 40,000 Maranhão 38,000		Glasgow 658,000 Edinburgh* 264,000 Dundee 154,000 Aberdeen 125,000		NORWAY. Christiania* 151,000 Bergen 54,000 Trondhjem 29,000		PORTUGAL. Lisbon* 301,000 Oporto 130,000 Braga 23,000		PERSIA. Teheran* 230,000 Tabriz 180,000 Isfahan 80,000 Meshed 60,000	
UNITED STATES. New York 3,500,000 Chicago 1,620,000 Philadelphia 1,047,000 St. Louis 452,000 Boston 448,000 Baltimore 434,000 San Francisco 299,000 Cincinnati 297,000 Cleveland 262,000 Buffalo 255,000 New Orleans 242,000 Pittsburg 238,000 Washington* 230,000		ECUADOR. Quito* 80,000 Guayaquil 51,000 Cuenca 30,000		IRELAND. Belfast 256,000 Dublin* 245,000 Cork 75,000 Limerick 37,000 Londonderry 33,000 Waterford 20,000		AUSTRO-HUNGARY. Vienna* 1,365,000 Budapest 492,000 Prague 183,000 Trieste 158,000 Lemberg 128,000		SWEDEN. Stockholm* 280,000 Gothenburg 117,000 Malmo 54,000		TURKEY IN ASIA. Smyrna 200,000 Damascus 150,000 Bagdad 145,000 Aleppo 127,000 Beirut 120,000 Brusa 70,000 Jerusalem 41,000	
CENTRAL AMERICA. New Guatemala* 70,000 San Salvador* 50,000 Leon 34,000 San Jose* 20,000 Tegucigalpa* 18,000 Managua* 18,000		PERU. Lima* 104,000 Callao 35,000 Arequipa 30,000		FRANCE. Paris* 2,537,000 Lyons 466,000 Marseilles 442,000 Bordeaux 257,000 Lille 216,000 Toulouse 150,000 St. Etienne 136,000 Roubaix 125,000 Nantes 124,000 Havre 120,000		RUSSIA IN EUROPE. St. Petersburg* 1,267,000 Moscow 989,000 Warsaw 615,000 Odessa 405,000 Lodz 315,000 Riga 283,000		AFGHANISTAN. Cabul* 100,000 Candhar 50,000 Herat 30,000		AFRICA. EGYPT. Cairo* 577,000 Alexandria 320,000 Tantah 57,000	
MEXICO. Mexico* 340,000 Puebla 92,000 Leon 91,000 Vera Cruz 89,000 Guadalajara 84,000 San Luis Potosi 70,000		BOLIVIA. La Paz* 62,000 Cochabamba 30,000 Sucre 26,000 Potosi 18,000		SWITZERLAND. Zurich 152,000 Basel 90,000 Geneva 87,000 Bern* 49,000 Lausanne 41,000		SPAIN. Madrid* 500,000 Barcelona 272,000 Valencia 171,000 Seville 143,000 Malaga 134,000 Murcia 98,000		ARABIA. Mecca 60,000 Aden 50,000 Medina 20,000 Sana 20,000		THE BARBARY STATES. Tunis* 170,000 Fez* 145,000 Algiers* 92,000 Morocco* 45,000 Tripoli* 30,000	
WEST INDIES. Havana* 200,500 Santiago de Cuba 60,000 Port au Prince* 60,000 Matanzas 58,000 Kingston 47,000 San Juan* 26,000 Santo Domingo* 15,000		CHILE. Santiago* 256,500 Valparaiso 123,000 Concepcion 40,000 Talca 33,000		ITALY. Naples 530,000 Rome* 474,000 Milan 457,000 Turin 348,000 Palermo 283,000 Genoa 225,000 Florence 207,000 Venice 153,000 Bologna 151,000		BELGIUM. Antwerp 268,000 Brussels* 195,000 Liege 166,000 Ghent 159,000 Bruges 50,000		JAPAN. Tokyo* 1,260,000 Osaka 487,000 Kio 340,000 Yokohama 170,000 Nagasaki 72,000		GUINEA COAST. Abomey 50,000 Lagos 35,000 Freetown 30,000 St. Louis 20,000 Loanda 14,000 Monrovia 5,000	
SOUTH AMERICA.		ARGENTINE REPUBLIC. Buenos Ayres* 727,000 Rosario 94,000 Cordova 48,000 La Plata 46,000		GERMAN EMPIRE. Berlin* 1,667,000 Hamburg 626,000 Munich 407,000 Leipsic 400,000 Breslau 373,000 Dresden 337,000 Cologne 322,000 Frankfort 229,000 Magdeburg 215,000 Hanover 210,000 Konigsberg 173,000 Stuttgart 158,000		TURKEY IN EUROPE. Constantinople* 874,000 Salonica 152,000 Adrianople 71,000		CHINESE EMPIRE. Canton 2,000,000 Pekin* 1,000,000 Tientsin 950,000 Hang Chow 700,000 Foo Chow 650,000 Shanghai 405,000		INDIAN COAST. Tananarivo 100,000 Zanzibar 100,000 Addis Abeba 50,000 Mombasa 25,000 Mozambique 9,000 Lourenço Marquez 8,000	
COLOMBIA. Bogota* 120,000 Medellin 40,000 Barranquilla 40,000 Panama 30,000		PARAGUAY. Asuncion* 45,000 Villa Rica 19,000 Concepcion 10,000		THE NETHERLANDS. Amsterdam 494,000 Rotterdam 286,000 The Hague* 192,000 Utrecht 96,000 Groningen 62,000		ROUMANIA. Bucharest* 232,000 Jassy 66,000		COREA. Seoul* 193,000		CAPE COAST. Johannesburg 103,000 Cape Town* 51,000 Durban 39,000	
VENEZUELA. Caracas* 73,000 Valencia 39,000 Maracaybo 34,000 Barquisimeto 32,000		URUGUAY. Montevideo* 175,000		EUROPE.		SERVIA. Belgrade* 50,000		BRITISH INDIA. Bombay 822,000 Calcutta* 811,000 Madras 453,000 Hyderabad 415,000 Lucknow 273,000 Benares 220,000 Delhi 193,000		OCEANIA. AUSTRALASIA. Melbourne* 448,000 Sydney* 409,000 Adelaide* 144,000 Brisbane* 95,000 Wellington* 37,000 Auckland 32,000 Sandhurst 27,000 Perth* 19,000	
ENGLAND AND WALES. London* 4,433,000 Liverpool 633,000 Manchester 530,000 Birmingham 501,000 Leeds 403,000 Sheffield 347,000		THE NETHERLANDS. Amsterdam 494,000 Rotterdam 286,000 The Hague* 192,000 Utrecht 96,000 Groningen 62,000		AFGHANISTAN. Cabul* 100,000 Candhar 50,000 Herat 30,000		AFRICA. EGYPT. Cairo* 577,000 Alexandria 320,000 Tantah 57,000		AFRICA. EGYPT. Cairo* 577,000 Alexandria 320,000 Tantah 57,000		AFRICA. EGYPT. Cairo* 577,000 Alexandria 320,000 Tantah 57,000	

THE PRINCIPAL MOUNTAINS OF THE WORLD.

ASIA.		AFRICA.		SOUTH AMERICA.		NORTH AMERICA.	
Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.	Feet.
Mt. Everest 29,002	Mt. Ararat 17,210	Kilimanjaro 20,000	Cameroons (highest peak) 13,370	Aconcagua 23,080	Illimani 22,500	Logan 19,500	Whitney 14,898
Several peaks of the Himalaya Mts. 25,000 to 28,300		Kenia 18,000	Peak of Teneriffe 12,182	Sahama 22,350	Sorata 21,286	Orizaba 18,314	Rainier 14,526
		Ruwenzori 16,000	Mitsin 12,000	Guallatiri 21,980	Chimborazo 20,517	St. Elias 18,010	Shasta 14,550
		Abba Jared 15,015				Popocatepetl 17,784	Pikes Peak 14,147
						Brown 15,000	Hood 11,225

NORTH AMERICA.—Atlantic Highlands.

EUROPE.		OCEANIA.	
Feet.	Feet.	Feet.	Feet.
Mitchell 6,711	Grandfather 5,897	Ophir 13,900	Kini Balu 13,700
Clingmans Peak 6,619	Marcy 5,379	Mauna Loa 13,760	Semeru 12,000
Washington 6,286	Katahdin 5,200		
Elburz 18,493	Finster Aarhorn 14,026		
Blanc 15,744	Jungfrau 13,720		
Rosa 15,208	Cenis 11,460		
Matterhorn 14,836	Etna 10,874		

THE PRINCIPAL RIVERS OF THE WORLD.

SOUTH AMERICA.		EUROPE.		AFRICA.		ASIA.		AMERICA.	
Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.	Length in miles.
Amazon 3,400	Madeira 1,800	Volga 2,300	Don 1,100	Nile 3,900	Zambesi 1,600	Yangtze 3,100	Amoor 2,700	Mississippi (entire) 4,200	Yukon 2,000
Plata, inc. Parana 2,500	Paraguay 1,000	Danube 1,800	Petchora 920	Niger 2,900	Orange 1,200	Obi 3,000	Indus 1,900	Missouri 2,900	Arkansas 2,000
		Ural 1,400	Rhine 800	Kongo 2,800	Senegal 1,000	Yenisei 3,000	Ganges-Brahmaputra 2,800	Mackenzie 2,100	Rio Grande 1,800
		Dnieper 1,300	Rhone 550			Huang 2,800			

GOVERNMENTS.		EMPIRES.		KINGDOMS.		COLONIES, etc.		GOVERNMENTS.	
1. United States.	12. Haiti.	1. Chinese.	2. British.	1. Gr. Brit. & Ire'd.	2. Italy.	1. British India.	2. Kongo State.	1. Canada, Br.	17. Borneo, S. and E., Dut.
2. France.	13. Ecuador.	3. Russian.	3. German.	3. Prussia.	4. Spain.	3. Java, Dut.	3. Tonquin, Fr.	8. Algeria, Fr.	18. Madagascar, Fr.
3. Brazil.	14. Liberia.	4. Austrian.	5. Japan.	5. Corea.	5. Siam.	4. Tonquin, Fr.	4. Egypt, Br. and Turk.	9. Australia, Br.	19. N. Zealand, Br.
4. Mexico.	15. Uruguay.	5. Persia.	6. Persia.	6. Bavaria.	7. Belgium.	5. Egypt, Br. and Turk.	5. Anam, Fr.	10. Ceylon, Br.	20. Str. Settlements, Br.
5. Colombia.	16. South Afr. Rep.	6. Morocco.	7. Abyssinia.	7. Roumania.	8. Sweden.	6. Anam, Fr.		11. Coch. China, Fr.	21. Papua, Dut., Br., Ger.
6. Argentine Rep.								12. Jamaica, Br.	22. Natal, Br.
								13. Tunis, Fr.	23. Ceibes, Dut.
								14. Sumatra, Dut.	24. Guiana, Br. Dut., Fr.
								15. Cape Colony, Br.	
								16. Cambodia, Fr.	

* Indicates the Capital.

PRONUNCIATION OF DIFFICULT GEOGRAPHICAL NAMES.

☞ All marks used to indicate pronunciation are the same as are employed in Webster's International Dictionary.

EXPLANATION OF MARKS. — *ā, ē, ī, ō, ū, y, long; ă, ɛ, ɪ, ʊ, ʏ, short; cāre, fār, lāst, fāll, whā; thēre, vāll, tērm; pīque, fīrm; dōne, fōr, dō, wōlf, fōd, fōt; fūrl, rpd, pūh; e, i, o, silent; ă, sound of long ā; ɛ, similar to e in her; ū, like the French u; ēē, sound of i in spirit; ç as s; çh as sh; e, eh, as k; g as j; g as in get; s as z; z as in zipper, link; th as in thine; l, like li in million; ſ, like si in minion; ă, nearly like z; ʏ, similar to th in this; ɔ, sound of German ch; ɔ̃, strongly aspirated; ɛ̃, sound of German ch; ɛ̃, French nasal sound; ɛ̃, like rr in terror.*

<p>A.</p> <p>Aachen, ă-kən. Abaco, ă-bă-ko. Abbitto, ă-bē-tib/bee. Abokuta, ă-bē-o-kp/ta. Ab'er-deen. Abomey, ă-bō-mē. Aboukir, ă-bōo-keer. Abrantes, ă-brān/tē. Acapulco, ă-kā-pool/ko. Acara, ă-kā-rā. Achen, ă-khē. Aconagua, ă-kon-kh/gwā. Acre, ă-ker, or ă-ker. Aden, ă-den; Arab. pron. ă-den. Adige, ă-de-je; It. pron. ă-de-jē. Ad'ron'dack. Adrianople, ă-dri-an-o-pl. Ad'ri-at'ic. Aegean (Sea), ă-jee-an. Afghanistan, ă-fān/ta-tān. Agades, ă-gā-dēs. Agra, ă-grā. Aguilar, ă-gū-lār. Aguilua, ă-gū-lū-ya. Aisne, ă, or ăn. Aix-la-Chapelle, ă-ks-lă-shā-pel. Ajaccio, ă-jā-cho. Akron, ă-kron. Alamo, ă-lă-mo. Albans, ă-bān. Al'be-marle (Eng.). Al'be-marle (U. S.). Albuquerque, ă-bōo-khē/kī, or ă-bōo-khē. Alcantara, ă-khān/tā-rā. Alemon, ă-len/son; Fr. pron. ă-lōn/son. Alex'po. Alentian, ă-lu-ān. Algarve, ă-gā-rv. Al'giers. Alcanto, ă-lē-khān. Allegany, ă-lē-gān. Allegany, ă-lē-gān. Allier, ă-lē-er. Almaden, ă-mā-dēn. Almeida, ă-mē-dē. Alasco, ă-lā-sko. Altai, ă-lā-ī. Altamaha, ă-lā-tā-mā-hā. Alton, ă-lōn. Amboy, ă-m-bōy. Amboy, ă-m-bōy. Amiens, ă-mi-enz; Fr. pron. ă-mi-enz. Amite, ă-mē-ē. Am'os-kēg. Am'm. An'da-man. Andorra, ă-n-dōr-ā. An'do-ver. Ang'ros-cog'gin. Anglesey, or Anglesen, ăng-les. An'gola. Angostura, ăng-gōo-tōo-ri. Angoulême, ăng-gōo-lēm. An'ko-bar. Antigua, ăn-tē-gwā. Antilles, ăn-tē-lē, or ăn-tē-lē. Apache, ă-pā-che. Ap'le-lach'co-la. Ap'le-nēg. Ap'le-lē-oh-an. Ap'le-mat'ox. Araguay, ă-rā-gwā. Ar'al. Archangel, ărk-ān-jēl. Arequipa, ă-rē-kē-pā.</p>	<p>Ardennes, ăr-dēn. Ar'gen-tine. Argyle, ăr-gīl. Arica, ă-rē-kā. Arispe, ă-rē-pā. Ar'kan-sas. Armagh, ă-rmā. A-roo'took. Arpino, ă-rpē-nō. Ar'ras. Artois, ărtōis. A-shan'tee, or ă-shān-tē. Ash'ta-bu'lā. Asia, ă-shā-ā, often improperly pronounced ă-shā-ā. As'pin-wall. As-sam. As-sin'ni-boine. Asuncion, ă-sun-si-on. Atacama, ă-tā-kā-mā. Athara, ă-thā-rā. Atchafalaya, ă-tch-af-ā-lā-ya. Aube, ă. Augsburg. Augustine, St., sent-aw-gus-tēn. Au Sable, ă-sā-bl. Auv'ergne, ă-vērn, or ă-vērn. Auxerre, ă-er. Avignon, ă-vi-ni-ōn. Avon, ă-von. Az'of. Azores, ă-zōr, or ă-zōr.</p> <p>B.</p> <p>Bab'el-man'deb. Badajos, ă-bā-dōs. Baden, ă-bā-dēn, or ă-bā-dēn. Bagdad, ă-bā-gā-dā, or ă-bā-gā-dā. Ba-hā-mag. Bahia, ă-bā-ya. Baikal, ă-bā-ka-l. Baireuth, ă-bā-rūth; Ger. pron. ă-bā-rūth. Balaton, ă-bā-law-tōn. Bal'co-ā-ā. Balkan, ă-bā-kān. Baluchistan, ă-bā-lūch-is-tān. Bag'gōn (U. S.). Ban'kok. Barbados, ă-bā-bā-dōs. Bar-ce-lōna, or ă-bā-thā-lō-nā. Barnaul, ă-bā-nōw-l. Bar'ne-gat. Barn'sta-ble. Basle, ă-bā-l. Bā'so-rāh. Bā-tāng. Baton Rouge, ă-bā-tūn-roozh. Bayonne, ă-bā-yōn. Bayou la Fourche, ă-bā-yō lā fōrsh. Beaufort (British Dominions), ă-bō-furt. Beaufort (S. C.), ă-bō-furt. Bel'fast (Ireland). Bel'fat (Maine). Belize, ă-bē-lēz. Bellefontaine (France), ă-bē-lōn-fōn-tān. Bellefontaine (U. S.), ă-bē-lōn-fōn-tān. Belle Isle, or Bellisle, ă-bē-lē-ī. Benares, ă-bē-nā-rēs. Ben-gal, ă-bē-gā-l. Ben-gā-zī. Benguela, ă-bē-gū-ā. Benin, ă-bē-nēn. Bering, ă-bē-rīng.</p>	<p>Rōr'lin; Ger. pron. ă-rō-lēn. B'er-mu'dag. B'er-nard, ă-bē-rnārd. Berwick (Eng.), ă-bē-rīk. B'er-wick (U. S.). Besancon, ă-bē-sān-kōn. Bexar; Sp. pron. ă-bē-nā; oft-en pron. by the Texans, ă-bē-har or ă-bā. Blafra, ă-blā-frā. Bliloxi, ă-blē-ōk-sī. Binghamton, ă-bīng-ham-tūn. Birmingham, ă-bīr-mīng-ham. Blanc (Mont), ă-blān, or ă-blān. Mount Blanc. Blois, ă-blōis, preferably ă-blōis. Bogota, ă-bō-gō-tā. Boise, ă-bōis. Bokhara, ă-bō-khā-rā. Bologna, ă-bō-lōn-yā. Bom-bay. Bontin, ă-bōn-tēn. Bordeaux, ă-bōr-dō. Borgne, ă-bōrn. Bou'po-rus. Boulogne, ă-bō-lōn; Fr. pron. ă-bō-lōn. Bowdoin, ă-bō-dēn. Brah'ma-pu'tra. Bra-zil; Port. pron. ă-brā-sēl. Brazos, ă-brā-zōs, or ă-brā-sōs. Brem'en, or ă-brē-men (Europe). Breslau, ă-brēs-law, or ă-brēs-lōu. Bretton (Cape), ă-brēt-tūn. Brindisi, ă-brīn-dē-sē. Bry'ges; Fr. pron. ă-brīsh. Bu'cha-rest. Bu'da; Hung. pron. ă-bō-dōh. Buenos Ayres, ă-bō-nūs ă-er-is. Sp. pron. ă-bū-nōs ă-er-is. Bug. Burgōa. Burgundy. Bushire, ă-bōo-shēr. Butte, ă-būt.</p> <p>C.</p> <p>Cāh'ea. Ca-bul. Caen, ă-kān. Cagliari, ă-kā-lī-erā. Calicos, ă-kā-ko-s. Cal'ro (Egypt). Cāl'ro (U. S.). Calais, ă-kā-lā; Fr. pron. ă-kā-lā. Calcasieu, ă-kā-kā-shē, or ă-kā-lā-shē. Caldera, ă-kā-dē-rā. Callosa, ă-kā-lō-sā, or ă-kā-lō-sā. Calvi, ă-kā-lī. Canandaigua, ă-kā-nā-dē-gwā. Can'ā-er-el. Can-ton (China). Cape Girardeau, ă-jē-rā-dō. Ca-ra-cas. Cardenas, ă-kārdē-nās. Cār'ib-be-an. Cār'ib-bee. Cār'ib-bee. Carlsruhe, ă-kārls-rōo. Car-rōn-de-lēt. Cartagena, ă-kārtā-jē-nā. Cāsh-mēre. Castiglioni, ă-kāstē-gwā-lee. Castine, ă-kāstēn. Ca-taw-ba. Catoche, ă-kā-tō-che. Cāt'ta-rau'gus. Cāt'tē-gāt. Cau'ca-sus. Cayambe, ă-kā-mā-bā.</p>	<p>Cayenne, ă-kā-nē. Cayman, ă-kā-mān. Cayuga, ă-kā-yō-gā. Celebes, ă-sē-lē-bēs. Cen'is, or ă-sē-nē. Certe, ă-sē. Cetinje, ă-chēt-jē. Ceuta, ă-sū-tā. Cévennes, ă-sē-vēn. Ceylon, ă-sē-lōn, or ă-sē-lōn. Chagres, ă-chā-grēs. Chaleur, ă-shā-lōr. Chāmouny, ă-shā-mōn-ye. Chandeleur, ă-shān-dē-lōr. Chapala, ă-shā-pā-lā. Chapultepec, ă-shā-pool-tā-pek. Chār'ton. Chat'ta-hoo'che. Chāt'ta-hoo'ga. Chaudière, ă-shō-dē-er. Chataqua, ă-shā-tā-wā. Chelsea, ă-chē-lē. Chenango, ă-chē-nāng-gō. Chemnitz, ă-chēm-nī-tā. Chemung, ă-chēm-mūng. Che-raw. Cherbourg, ă-shēr-burg, or ă-shēr-bōor. Che-sun-cook. Cheviot, ă-chē-vi-ut. Cheyenne, ă-chē-ēn. Chicago, ă-shē-kā-gō. Chihuahua, ă-chē-wā-wā. Chile, ă-chī-lē; Sp. Chile, ă-chē-lē. Chil'li-coth'e. Chimborazo, ă-chīm-bō-rā-zō. Chin'cha. Chowan, ă-chō-wān. Chiquisaca, ă-chī-kā-sā-kā. Cienfuegos, ă-sēn-fwē-gōs. Cimarron, ă-sē-mā-rōn. Cintra, ă-kō-bē-rā. Coblentz, ă-kō-blēntā. Cochabamba, ă-kō-chā-bā-m-bā. Co'chin Ch'ina. Cohahuilla, ă-kō-hā-wē-lā. Cohoes, ă-kō-hōs. Co-lim-bra, or ă-kō-lē-m-bā. Collins, ă-kō-lē-mā. Cologne, ă-kō-lōn. Colorado, ă-kō-lō-rā-dō. Comayagua, ă-kō-mā-yā-gwā. Com'ro-rin. Concepcion, ă-kōn-sē-cho. Conecuh, ă-kō-nē-kā. Congaree, ă-kōng-gā-rē. Connaught, ă-kōn-nāwt. Cop'en-hā-gēn. Copiapo, ă-kō-pā-pō. Coquimbó, ă-kō-kēm-bō. Cordoba. Cores, ă-kō-rēs. Corrientes, ă-kō-rēn-tēs. Costa Rica, ă-kōstā-rī-kā. Cotopaxi, ă-kō-tō-pāks-ā. Cōw'ing-ton. Cracow, ă-kā-kō. Cris-me'a. Croi'x (St.), ă-krois. Cuencia, ă-kwēn-ki. Cumaná, ă-kū-mā-nā. Curacao, ă-kū-rā-sō. Cuyahoga, ă-kā-yā-gō-gā. Cuzco, ă-kōo-kō.</p>	<p>Dahomey, ă-dā-hō-mē. Dai Nippon. Darfoor, ă-dā-fōor. Darlen, ă-dā-rēn. De-cā-tur. Del'a-go'a. Delhi (Hindustan), ă-dē-lē. Delhi (U. S.), ă-dē-lē. Demerara, ă-dēm-erā-rā. Des Moines, ă-dē-mōin. Dieppe, ă-dē-pē, or ă-dē-pē. Dijon, ă-dē-jōn. Dnieper, ă-nē-pēr. Dniester, ă-nē-s-tēr. Dominica, ă-dōm-e-nē-kā. Dongola, ă-dōng-gō-lā. Dordogne, ă-dōr-dōn. Do'ver-feld. Drāve. Drontheim, ă-drōn-thēim. Dubuque, ă-dū-bū-kē. Duluth, ă-dū-lūth. Dumfries, ă-dūm-frees. Dun-dee. Du-ped'in. Duquesne, ă-dū-kēn. Dus'sel-dorf, Ger. Düssel-dorf, ă-dūs-sēl-dōr. Dw'ina.</p> <p>E.</p> <p>Eau Claire, ă-clāir. Ecuador, ă-ek-wē-dōr. Edinburgh, ă-dēn-bur-uh. Ed'is-to. Egripo, ă-ē-grī-pō. Eisenach, ă-izen-āk. Elbe, ă-lb; Ger. pron. ă-lb. Elburz, ă-el-burz. El Obeld, ă-l-ō-bē-lē. Enara, ă-nā-rā. Erfurt, ă-er-furt. Erlangen, ă-er-lāng-en. Erzerum, ă-er-zōr-um. Erzgebirge, ă-erz-gē-bērg-gā. Espinhaco, ă-es-pēn-yā-sō. Essequibo, ă-es-sē-kē-bō. Esslingen, ă-es-līng-en. Etienne, Saint, ăst ē-tēn. Et'o-wah. Eufaula, ă-ū-fā-lā. Eylan, ă-lōu.</p>	<p>Galatz, ă-gā-lāts. Ga-le-na. Gallinas, ă-gā-lī-nās. Gal'ves-ton. Galway, ă-gā-wā. Garonne, ă-gā-rōn. Gaspe, ă-gā-sē. Gen'o-a. Ghauts, ă-gāwtā. Ghent, ă-jēnt; Fr. Gand, ă-gā. Glessen, ă-gēs-sēn. Gila, ă-gī-lā. Gironde, ă-jē-rōnd; Fr. pron. ă-jē-rōnd. Gloucester, ă-glōs-tēr. Gobli, ă-gō-bī. Godavery, ă-gō-dā-ver-ī. Goes, ă-gōs. Gotha, ă-gō-thā. Göttingen, ă-gōt-tīng-en, or ă-gōt-tīng-en. Granada, ă-grā-nā-dā. Greenwich, ă-grēn-wīch. Griqua, ă-grī-kwā. Guadalajara, or Guadaluza, ă-gwā-dā-lā-jā-rā, or ă-gwā-dā-lōop. Guadaloupe, ă-gwā-dā-lōop, or ă-gwā-dā-lōop. Guadalquivir, ă-gwā-dā-l-kwī-er. Guadiana, ă-gwā-dē-nā, or ă-gwā-dē-nā. Guamahani, ă-gwā-mā-nē. Guanaquato, ă-gwā-nā-wā-tō. Guapore, ă-gwā-pō-rā. Guardafui, ă-gwā-dā-fwē, or ă-gwā-dā-fwē. Guatemala, ă-gwā-tē-mā-lā, or ă-gwā-tē-mā-lā. Guayama, ă-gwā-yā-mā. Guayaquil, ă-gwā-yā-kīl. Guaymas, ă-gwā-mās. Guernsey, ă-gwēn-sē. Guiana, ă-gwā-nā. Guinea, ă-gwē-nā. Guyandot, ă-gwān-dōt.</p> <p>H.</p> <p>Hague, ă-hā-gē. Hainan, ă-hā-nān. Hakodate, ă-hā-kō-dā-tē. Halle, ă-hā-lē. Han'o-ver. Hauran, ă-hā-rān. Haverhill (Eng.), ă-hā-ver-lī. Haverhill (Mass.), ă-hā-ver-lī. Havre de Grace, ă-hā-ver de grās. Hawaii, ă-hā-wā-ī. Hatti, ă-hā-tī. Hebrides, ă-hē-brī-dēs. He-le-na, St. Helena (Ark.), ă-hē-lē-nā. Hel'goland. Hel'sing-fors. Hen-lo-pen. Hen-rī-ko. Herat, ă-hēr-āt. Herzogovina, ă-hēr-zōg-ō-vī-nā. Hesse Cas'sel. Him-a-lā-ya. Hin-do-stān. Ho-ang-ho, pronounced almost whang-ho. Ho-b's-ken. Holstein, ă-hōl-stēn. Honduras, ă-hōn-dōo-rās. Honolulu, ă-hō-nō-lōo-lōo.</p>
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Houston, hū'stun.
Hua, hoo-va.
Huachuca, wu'chū.
Huacaca, wu'chū.
Hydrabad, hū'der-a-bād.

I.

Iberville, i-bur-vil.
Iguate, i-gwā-pa.
Ilimpu, eel-yūm-pū.
Ilimani, eel-yū-mā-ne.
Ilmen, il-mēn.
Imagua, o-nā-gwā.
Indies, in-dīz.
Immsbruck, in-mprūck.
Interlachen, in-ter-lāch-en.
I-o-wa.
Iquique, i-kū-kū.
Isar, i-sar.
Itacolumi, i-tā-cū-lū-mū.
Itah-ca.
It'u-ka.
Itacihuatli, i-tā-kū-ā-hwā'tli.

J.

Jaen, hā-en.
Jalapa, hā-lā-pā.
Jalisco, or Xalisco, hā-lē-sco.
Jan Mayen, yān mā-en.
Jassy, yā-sū.
Jem'a, Ger. pron. yā-nū.
Ju'an Fā-nan-dōz.
Ju'an, Saint; Sp. San Juan, sān wū-ān.
Jungfrau, yūng-frow.

K.

Kagesima, hā-gā-sū-mā.
Kal-a-ma-too.
Kam-chat-ka.
Kamawha, ka-naw-wa.
Kam-da-har.
Kankakee, kap-kā-kee.
Kano, kā-nū.
Karakorum, kār-kū-rūm.
Karlakrona, kār-lā-kro-nā.
Ka-tah'din.
Kearney, kār-nī.
Kearsarge, kār-sār-gē.
Kennebec, kēn-nē-bēk.
Kenosha, kēn-ō-shā.
Ke-o-kuk.
Kerguelen, kērgē-len.
Khiva, kē-vī.
Kiakhta, kē-khā-tā.
Kief, kē-ēf, or kī-ēf.
Kiel, kēl.
Killmanjaro, kīl-e-mān-jā-rō.
Kloten, kī-ō-len.
Kioto, kī-ō-to.
Kit'ta-tin-ny.
Klamath, klām-at.
Kolin, kō-len.
Kongo, kong-go.
Königsberg, kēn'igz-berg.
Kuenlun, kwen-lūn.
Kuka, kū-kū.
Kurile, kū-rīl.

L.

Lab'ra-dūr.
Lad-o-ga.
La-dronag; Sp. pron. lā-ro-nā.
Lafayette, lā-fā-tē.
La Fourche, lā foorsh.
Lago Maggiore, lā-go-mā-djō-rā.
La Guayra, lā gwī-rā.
Lancaster, lāng-kas-ter.
Languedoc, lāng'gēh-dok.
Laon, lā-ōn.
Laredo, lā-rē-dō.
La Rochelle, lā rō-shēl.
Latakia, lā-tā-ke-ā.
Lausanne, lā-sūn.

Legnano, lē-nā-nō.
Leicester, lē-tēr.
Leinster, lē-ster.
Leipzig, lē-pīk.
Leith, lēth.
Léon-in-ster (U. S.).
Leominster (Eng.), lē-m'ster.
Le-on; Sp. pron. lē-ōn.
Le Sueur, soor.
Leyden, lē-den, or lē-den.
Liège, lēj; Fr. pron. lē-jē.
Lille, lēl.
Lima (Peru), lē-mā.
Lima (U. S.), lē-mā.
Limoges, lē-mōsh.
Lipari, lī-pā-rē, or lē-pā-rē.
Llanca, lān-kā.
Lodi (Italy), lō-dē.
Lodi (U. S.), lō-dī.
Lo-fō-den.
Loire, lō-rē.
Lomond (Loch), lōm lū-mund.
Los Angeles, lōs ān-jēl-ēz.
Louisville, lōo-vīl.
Luc-ca; It. pron. look-kā.
Lupata, lū-pā-tā.
Luxon, lū-ōn.
Lý-cōm-ing.
Lý-ons; Fr. Lyon, lē-ōn.

M.

Maas, mā.
Macao, mā-kā-ō, or mā-kow.
Machias, mā-chī-as.
Mack't-maw.
Madeira, mā-dē-rā; Port. pron. mā-dē-rā.
Mad-ras.
Mad-rid.
Mad-rid (U. S.).
Magdala, mā-gdā-lā.
Magellan, mā-jel-lān.
Makoueta, mā-kō-ke-tā.
Mal'a-bar.
Mal'a-ga, or mā-lā-gā.
Malta, mā-ltā.
Mandalay, mā-dā-lā.
Manistee, mā-nī-tē.
Manitoba, mā-nī-to-bā.
Manitowoc, mā-nī-to-wok.
Manzanillo, mān-sā-nēl-yō.
Maracaybo, mā-rā-kī-bo.
Maranham, mā-rā-nām.
Mar-mo-ra.
Marquesas, mā-kā-sās.
Marquette, mā-ke-t.
Marseille, mā-sēl.
Martinique, mā-rī-nek.
Mas-sil-lon.
Ma-tan-zas.
Mat'a-pan.
Mauch-Chunk, māw-chūnk.
Max-at-lan.
Mechlin, mēk-līn.
Medina (Arabia), mē-dē-nā.
Medina (U. S.), mē-dī-nā.
Me-her-rin.
Meiningen, mī-nīng-en.
Menai, mē-nī, or mē-nī (Strait).
Mendocino, mēn-dō-sē-no.
Mercede, mē-sēd.
Mersey, mē-rē.
Merthyr Tyd'vil, mē'rthēr-tīd-vīl.
Messina, mē-sē-nā.
Miami, mā-mī.
Milan, mī-lān (Italy); mī-lān (U. S.).
Miquelon, mī-kē-lōn.
Miramachi, mī-rā-mā-shē.
Mod'e-na, or mod'ē-nā.
Mohave, mō-hā-vē.
Mo-nad-nock.
Mo-non-ga-he-la.
Mont Blanc, mōn blān, or Mount Blānc.
Mont Ceniz, mōn sēn-nē, or sēn-nē.
Mon'te-vid'e-o, or mon-tā-ve-dē-ō.
Mont-pe'll'er.
Mo-re-a.
Mow-cōw; Russ. Moakwa, moak-wā.

Mozambique, mō-sam-beek.
Munich, mū-nīk.
Muscatine, mū-ska-tēn.
Muskingum, mū-sing-gum.
Mysore, mī-sōr.

N.

Nan-kin.
Nantes, nānt; Fr. pron. nānt.
Nantuck-et.
Natal, nā-tāl.
Natch'l-toch'es; sometimes pronounced nak-e-tuah.
Neufchatel, nūsh'chātēl.
Ne'vis (Ben).
Newfoundland, nū-fund-lānd.
New Or'le-ans.
Ngami, 'ngā-mē.
Niagara, nī-ā-gā-rā; sometimes pronounced nī-ā-gā-rā.
Nicaragua, nī-kā-rā-gwā.
Nice, nē-sē.
Niger, nī-jēr.
Nijni Novgorod, nīzh'nē-nōv-gōrōd.
Nip'le-sing.
Nismes, nēm.
Norwich (Eng.), nōr'wīch.
Norwich (U. S.), nōr'wīch, or nōr'wīch.
Nov'go-rod.
Nueces, nū-sēs.
Nyanza, nī-an-zā.
Nyassa, nī-ā-sā.

O.

Oahu, wā-hoo.
Oaxaca, wā-sā-kā.
Obi, ō-bē.
Ock'to-ko-nee.
O-ō-nee.
Odense, ō-dēn-sē.
Ogechee, ō-gē-chee.
Olise, ō-lī; Fr. pron. wāz.
Ok-chobee, ō-kē-chō-bē.
Okhnokee, ō-kē-nō-keē.
Okhotsk, ō-kōtsk.
Oléan, ō-lē-ān.
Oléron, ō-lē-rōn.
Omaha, ō-mā-hā.
Oman, ō-mān.
O-ne-ga.
Onida, ō-nī-dā.
Onondaga, ō-nū-dā-gā.
On'to-mag'on.
Op-el'i-ka.
Op'e-lōp'sas.
Orizaba, ō-rē-sā-bā.
Or'tē-gal.
Ō'sāgo.
Ouachita, wāsh'ī-tā.
Oude, ōud.
O-zark.

P.

Pad-u-a.
Paduca, pā-dy-kā.
Panama, pā-nā-mā.
Papua, pā-pō-ā, or pā-pō-ā.
Para, pā-rā.
Paraguay, pā-rā-gwā, or pā-rā-gwī.
Par'a-mar'i-bo.
Parana, pā-rā-nā.
Parime, pā-rī-mē.
Parina, pā-rē-nā.
Pas-sā-ic.
Passaro, pās-sā-ro.
Pass Christian, pās kris'ti-ān.
Pa-tras.
Pavia, pā-ve-ā.
Pecos, pē-kō.
Pelpus, pē-pōs.
Pembina, pēm-be-nā.
Pernambuco, pēr-nām-boō-ko.
Pest, pēst.
Phil'ip-pine.
Piacenza, pē-ā-chen-ā.

Pierre (Saint), sēt pēr.
Piqua, pī-wā.
Pisa, pē-sā.
Pis-cat'a-qua.
Plaquemine, plāk'mēn.
Plata (Rio de la), rē-ō dā lā plātā.
Po-co-tal'i-co.
Pondicherry, pōn'de-ābēr-rē.
Pont'char-trāin.
Popayan, pō-pī-ān, or pō-pī-ān.
Po-po-cat'e-pētl'.
Port-au-Prince, pōrt-ā-prīn-sā.
Port Mahon, māk'hōn.
Portsmouth, pōrts'muth.
Potosi, pō-to-sē, or pō-to-sē.
Poughkeepsie, pō-kīp'ē.
Prague, prāg.
Prairie du Chien, prā'rī dū shēn.
Presque Isle, prēsk eel.
Puebla, pwēb'lā.
Puerto Rico, pwē'r'tō rē-ka.
Pyrenees, pī-rē-nēs.

Q.

Queretaro, kē-rē-tā-ro.
Quesada, kē-sā-dā.
Quiche, kē-chī.
Quilca, kē-lō-kā.
Quin'e-bug'.
Quito, kē-to.

R.

Racine, ras-ēen.
Ragusa, rā-gō-sā.
Rahway, rā-wā.
Raleigh, rā-wēl.
Rangoon, rang-goon.
Rap'id-an'.
Raritan, rār-it-un.
Reading, rē-dīng.
Recife, rē-sēfē.
Reggio, rē-djō.
Remscheid, rēm-sē-ler.
Rey-kī-a-vik.
Rheims, rēmz; Fr. pron. rēm.
Riad, rī-ad.
Richelieu, rē-shē-lō.
Rideau, rē-dē.
Riesengebirge, rē-sen-gā-bērg.
Riga, or rē-gā.
Riobamba, rē-ō-bām-bā.
Rio Colorado, rē-ō kō-lō-rā-dō.
Rio del Norte, rī-ō del nort; Sp. pron. rē-ō dēl nort.
Rio Grande (Texas), rī-ō grānd.
Rio Grande (S. A.), rē-ō grān-dā.
Rio Janeiro, rī-ō jā-nē-ro, or rē-ō jā-nē-ro.
Rivoli, rī-vō-le, or rē-vo-le.
Ro'a-noke.
Rouen, rō-en; Fr. pron. rō-ān.
Rügen, rū-gēn.
Russia, rūsh-ī-ā.
Ryewick, rī-wīk.

S.

Sabine, sā-been.
Saco, sā-ko.
Saghalin, sā-gā-lēn.
Saguenay, sā-gē-nā.
Sahara, sā-hā-rā.
Said, sā-ēd.
Sai-gon, sā-gōn.
Sal'a-mo-nīē.
Salford, sāw'furd, or sāw'furd.
Salonica, sal-ō-nē-kā.
Salttillo, sā-tēl-yō.
Saluda, sā-lō-dā.
Salvador, sā-lvā-dōr.
San Diego, sān dē-gō.

Sangamon, sāng-gā-mōn.
San Joaquin, sān hō-ā-ke-n.
San José, sān hō-sē.
San Juan; Sp. pron. sān wū-ān, or sū-ān.
Santa Cruz, sān'tā kroos.
San'tā Fé; Sp. pron. sān'tā fē.
Santarem, sān-tā-rēm; almost sān-tā-rēm.
Santiago de Cuba, sān-tā-gō dē kū-bā, or dā kō-bā.
Sasone, sāsō.
Sas-katch'e-wan.
Sault (St. Ma'ry), sō.
Schaaffhausen, shāf-hōw-sen.
Scheldt, shēlt.
Scheneectady, shē-nēk'tā-dy.
Schoharie, shō-hār-ē.
Schuyler, shū-ylēr.
Schuykill, shū-yl-kil.
Seine, sēn.
Senegal, sē-nē-gaw.
Sennar, sē-nār.
Seville, sē-vīl, or sē-vīl.
Seychelles, sē-shēl.
Shanghai, shang'hī.
Shawangunk, shong-gum.
She-boy-gan.
Shen'an-dō-ah.
Sierra Madre, sē-sēr-mā mād-rā.
Sierra Nevada, sē-sēr-mā nē-vādā.
Sim'plon; Fr. pron. sīm'plōn.
Sinal, sī-nā, or sī-nā-ī.
Singapore, sīng-gā-pōr.
Sioux, sō.
Sisal, sē-sīl.
Skag'er Rack.
Skaneateles, skan-ē-at-lēs.
Sofala, sō-fā-lā, or sō-fā-lā.
Solsons, sō-sōn.
Somme, som.
So-mo-rā.
Sorata, sō-rā-tā.
Stettin, stē-tēn.
Steubenville, stē-ben-vīl.
Stromboli, strom-bō-lē.
Sucre, sū-kre.
Suez, sū-sē.
Sumatra, sū-mā-trā.
Surinam, sū-rī-nām.
Su-wā-nee.
Swansea, swon-sē.
Szegedin, sē-gēd-in.

T.

Tahiti, tā-hī-tē.
Tahlequah, tā-lē-kwā.
Tamaqua, tā-mā-kwā.
Tamatave, tā-mā-tāve.
Tamaulipas, tā-mō-lē-pās.
Tampico, tā-m-pē-ko.
Tananarivo, tā-nā-nā-rē-vō.
Tanganyika, tān-gān-yī-kā.
Tangier, tān-jēr.
Taos, tā-ōs; almost towā.
Tapajos, tā-pā-jōs, or tā-pā-hōs.
Taunton (Eng.), tāwn-ton.
Taunton (Mass.), tān-ton.
Teche, tēsh.
Teheran, tē-h'rān.
Tehuantepec, tā-wīn-tā-pēk.
Ten-as-ser-lm.
Teneriffe, tē-nēr-īf.
Terre Haute, tēr-rāh-hūt.
Thames, tēmz.
Thibodeaux, tīb-ō-dē.
Thibet, tīb-ēt, or tīb-ēt.
Tierra del Fuego, tē-sā-dēl fī-wē-gō.
Tiflis, tīf-lēs.
Tim-buc'too.
Titicaca, tīt-ē-kā-kā.
Tivoli, tīv-ō-lē, or tē-vo-lē.
Tocantins, tō-kān-tēns.
Tokyo, tō-kī-ō.
Tonquin, ton-keen.
To-pe-ka.
Toulon, tō-lōn.
Toulouse, tō-lōos.
Tours, tōr.

Trafal-gar, or Trā-fā-gar.
Trieste, trē-sē.
Trin'i-dad.
Truxillo, or Trajillo, troo-sēl-yō.
Tucson, tū-sōn.
Tulare, tō-lā-rē.
Turin, or tū-rīn.
Tyr'ol; Ger. pron. tē-rūl.

U.

Ucayale, ō-kī-wā-lē.
Uhlj, ū-jī.
Ulm; Ger. pron. ūlm.
Um-bé-gog.
Upornavik, ō-pā-nā-vīk.
Uruguay, ū-rōo-gwā, or ō-rōo-gwā.
Utrecht, ū-trēkt.

V.

Valdai, vā-dī.
Val'de-do-lid'; Sp. pron. val-yē-dō-lēd.
Vallejo, vā-lē-jō.
Valparaiso, vā-pā-rī-sō.
Varenna, vār-nā.
Venezuela, vē-nē-sē-lā.
Vera Cruz, vēr-kroos.
Verde, vēr.
Vergennes, vēr-jēns.
Versailles, vēr-sāilz; Fr. pron. vēr-sāil, or vēr-sāy.
Vienna, vē-nā.
Vincennes, vīn-sēns; Fr. pron. vīn-sē.
Vooges, vōsh.

W.

Wachusett, wā-chū-sēt.
Warwick (Eng.), wōr'rik.
Warwick (U. S.), wōr'rik, wōr'rik.
Wasatch, wā-shāch.
Washtia, wāsh-tā-w.
Wau-ke-gan.
Wen'er, wē-nēr.
We'ger; Ger. pron. wē-zer.
Wieliczka, wē-līch-kā.
Wilkesbarre, wīl-kē-bār-ē.
Williamette, wī-lā-met.
Win-ne-bā-go.
Win-ne-pe-sau-kee.
Wis-chā-set.
Woolwich, wōōl'itch, or wōōl'it.
Worcester, wōr-ster.
Wyrttemberg, wūr-tem-berg.
Wyr'am-dot'.
Wy-ō-ming.

Y.

Yakoutak, yā-kōotak.
Yangtze Kiang, yang'tze kē-ang.
Yar'land.
Ya-zoo.
Yem'en.
Yemsel, yē-sē-sē.
Yezo, yē-zō.
Yo-ko-hā-mā.
Yo-sēn-i-tō.
Youghiogheny, yū-gō-gē-nī.
Yp'sā-lān-tī.
Yū-chā-tān, or yōo-kā-tān.

Z.

Zacatecas, zā-kā-tē-kas.
Zacualpan, zā-kwā-l-pān.
Zam-bé-si, or zam-bē-sē.
Zanguebar, sāng-gā-bār.
Zan'te.
Zan'zi-bar.
Zürich, zū-rik.
Zuyder, zū-dēr.

THE LAND SURVEYS OF THE UNITED STATES.

I. Historical Note.

After the close of the Revolutionary War, the eastern colonies surrendered to the General Government their several claims to the lands north of the Ohio, and west of Pennsylvania, as far as to the Mississippi River. Connecticut, however, retained the north-eastern corner of Ohio, now called the "Connecticut," or "Western Reserve." Virginia also reserved a large tract in the southern part of the state, between the Scioto and the Miami rivers. Georgia relinquished her claim to Alabama and Mississippi. Subsequently Florida, the Louisiana Purchase, Texas, California, and Arizona were acquired either by treaty or by purchase.

As early as 1785 provision was made by Congress for a uniform system of surveys of all public lands. The present system was adopted in 1786. Thomas Jefferson is generally credited with its authorship. "Lot 16" of every township was set apart for the maintenance of public schools. Since 1852, sections 16 and 36 in every township are given to the school fund. They are called *School Sections*. The surveys are not extended across Indian Reservations, nor over any lands which are not the property of the United States.

There was no system adopted in allotting the lands of the original states. Each tract was described by *metes and bounds*, and often in a manner so vague as to present various conflicting claims.

II. The Township and its Subdivisions.

The public lands of the United States are generally laid out in *townships* and *sections*. These townships and sections are designated by a simple and uniform system of numbering.

A *township* is six miles square, and consequently contains thirty-six square miles, or 23,040 acres. Its boundaries are *meridians* on the east and west, and *parallels of latitude* on the north and south.

A township is divided into 36 *sections*, each one mile square "as nearly as may be." A section contains 640 acres.

The sections of a township are always numbered in the order indicated by Diagram 1.

Section 1 is always in the north-east corner of the township, and the numbers run alternately west and east. Sections are divided as indicated in Diagram 2.

The government surveyors mark the corners of townships, sections, half-sections, and quarter-sections (except the corner in the center of the section) with stakes, stones, or mounds of turf, after a uniform system. In some of the later surveys eighths and sixteenths are also measured.

III. Numbering of Townships.

Townships are legally designated by numbers instead of names.

All surveys begin by establishing a *true meridian*, along which the surveyors measure from some selected point, marking each half-mile point with a "quarter stake," and each mile point with a "section corner." At each six-mile point a "township corner" is marked. This line is called a *principal meridian*.

Through this selected starting-point upon the principal meridian, a true parallel of latitude is run, and measured from the meridian. The half-mile, mile, and six-mile corners are marked as upon the meridian. This is called a *base-line*.

In the later surveys, additional parallels, called *correction-lines*, are measured at distances of twenty-four or thirty miles apart, and also true meridians forty-eight miles apart, called *guide meridians*. The principal meridians, guide meridians, base-lines, and correction-lines, are *astronomical*

lines. All other lines are run with chain and compass, and are subject to two errors, — one from the variation of the needle, and the other from the impossibility of making perfectly accurate measurements with the chain. The sections are never surveyed by the same surveyors that mark the townships.

Townships are numbered north and south from the *base-line*. A row of townships running north and south is called a *range*. Ranges are numbered east and west from the *principal meridian*.

This is illustrated by Diagram 3.

Diagram 3.

Explanation. — Each square represents a township. Numerals on the base-line indicate ranges east and west of the principal meridian. Numerals on the principal meridian indicate townships north and south of the base-line. The south-west township on this diagram is described as "Township 5 South, of Range 4 West," or "T. 5 S., R. 4 W."

North of the *base-line* the *correction-lines* occur every four townships, or twenty-four miles; south of the *base-line*, every five townships, or thirty miles. This is on account of the greater convergence of the meridians as we proceed north: In a survey of Central British America, to secure equal accuracy, *correction-lines* would need to be laid out every two or three townships.

In locating townships they are always described as north or south of the *base-line*.

Sometimes a *new base-line* is located in passing from one state to another. For instance, on the fourth *principal meridian* the south boundary line of Wisconsin forms a new base-line for surveys in that state.

To locate any given township, as, for instance, Township 16 North, of Range 9 East, count eastward from the principal meridian along the base-line until the ninth range is reached; then count northward in that range until its sixteenth township is reached.

To locate a township accurately when its number and range are given, it is necessary to know from what meridian it is reckoned, and where its base-line crosses that meridian.

IV. Location of Meridians.

There are thirty meridians governing the surveys of public lands in the United States, as follows:—

The *first principal meridian* divides the states of Ohio and Indiana, having for its base the Ohio River, the river being coincident with $84^{\circ} 51'$ of longitude west from Greenwich. This meridian governs the surveys of public lands in the state of Ohio.

The *second principal meridian* coincides with $86^{\circ} 28'$ of longitude west from Greenwich, starts from the confluence of the Little Blue River with the Ohio, runs north to the northern boundary of Indiana, and governs the surveys in Indiana and a portion of those in Illinois.

The *third principal meridian* starts from the mouth of the Ohio River and extends to the northern boundary of the state of Illinois, and governs the surveys in said state *east* of the meridian, with the exception of those projected from the second meridian, and the surveys on the *west* to the Illinois River. This meridian coincides with $89^{\circ} 10' 30''$ of longitude west from Greenwich.

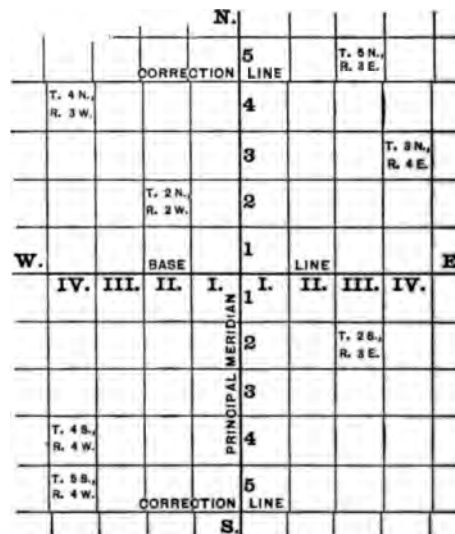
The *fourth principal meridian* begins in the middle of the channel of the mouth of the Illinois River, in latitude $38^{\circ} 58' 12''$ north and longitude $90^{\circ} 29' 56''$ west from Greenwich, and governs the surveys in Illinois west of the Illinois River and west of the third principal meridian lying north of the river. It also extends due north through Wisconsin and north-eastern Minnesota, governing all the surveys in the former and those in the latter

Diagram 1.
A TOWNSHIP.

N.											
6	5	4	3	2	1						
7	8	9	10	11	12						
18	17	16	15	14	13						
19	20	21	22	23	24						
30	29	28	27	26	25						
31	32	33	34	35	36						
S.											

Diagram 2.
A SECTION.

N.			
N.W. $\frac{1}{4}$ OF N.W. $\frac{1}{4}$ 40 A.	E. $\frac{1}{2}$ OF N.W. $\frac{1}{4}$ 80 A.	N.E. $\frac{1}{4}$ 160 A.	
S.W. $\frac{1}{4}$ OF N.W. $\frac{1}{4}$	S. $\frac{1}{2}$ 820 A.		
S.			
W.		E.	



THE LAND SURVEYS OF THE UNITED STATES.

state lying east of the Mississippi, and the third guide meridian (west of the fifth principal meridian) north of the river.

The *fifth principal meridian* starts from the mouth of the Arkansas River, and with a common base-line running due west from the mouth of the Saint Francis River, in Arkansas, governs the surveys in Arkansas, Missouri, Iowa, Minnesota west of the Mississippi, and the third guide meridian north of the river, and in North and South Dakota east of the Missouri River. This meridian is approximately coincident with 91° longitude west from Greenwich.

The *sixth principal meridian* coincides with longitude $97^{\circ} 22'$ west from Greenwich, and, with the principal base-line intersecting it on the 40th degree of north latitude, extends north to the intersection of the Missouri River and south to the 37th degree of north latitude, controlling the surveys in Kansas, Nebraska, most of North and South Dakota lying west of the Missouri River, Wyoming and Colorado, excepting the valley of the Rio Grande, in south-western Colorado, where the surveys are projected from the New Mexico Meridian.

The *Michigan meridian*, in longitude $84^{\circ} 19' 09''$ west from Greenwich, with a base-line on a parallel seven miles north of Detroit, governing the surveys in Michigan.

The *Tallahassee meridian*, in longitude $84^{\circ} 18'$ west from Greenwich, runs due north and south from the point of intersection with the base-line at Tallahassee, and governs the surveys in Florida.

The *Saint Stephen's meridian*, longitude $88^{\circ} 02'$ west from Greenwich, starts from Mobile, passes through Saint Stephen's, intersects the base-line on the 31st degree of north latitude, and controls the surveys of the southern district in Alabama and of the Pearl River district lying east of the river and south of township 10 north in the state of Mississippi.

The *Huntsville meridian*, longitude $86^{\circ} 31'$ west from Greenwich, extends from the northern boundary of Alabama as a base, passes through the town of Huntsville, and governs the surveys of the northern district in Alabama.

The *Choctaw meridian*, longitude $89^{\circ} 10' 30''$ west from Greenwich, passes two miles west of the town of Jackson, in Mississippi, starting from the base-line twenty-nine miles south of Jackson, and terminating on the south boundary of the Chickasaw cession, controlling the surveys east and west of the meridian and north of the base.

The *Washington meridian*, longitude $91^{\circ} 05'$ west of Greenwich, seven miles east of the town of Washington, in Mississippi, with the base-line corresponding with the 31st degree of north latitude, governs the surveys in the south-western angle of the state.

The *Saint Helena meridian*, $91^{\circ} 05'$ west from Greenwich, extends from the 31st degree of north latitude, as a base, due south, and passing one mile east of Baton Rouge, controls the surveys in the Greensborough and the south-eastern districts of Louisiana, both lying east of the Mississippi.

The *Louisiana meridian*, $92^{\circ} 20'$ west from Greenwich, intersects the 31st degree north latitude at a distance of forty-eight miles west of the eastern bank of the Mississippi River, and, with the base-line coincident with the said parallel of north latitude, governs the surveys in Louisiana west of the Mississippi.

The *New Mexico meridian*, longitude $106^{\circ} 52' 09''$ west from Greenwich, intersects the principal base-line on the Rio Grande about ten miles below the mouth of the Puerco river, on the parallel of $34^{\circ} 19'$ north latitude, and governs the surveys in New Mexico, and the valley of the Rio Grande, in Colorado.

The *Great Salt Lake meridian*, longitude $111^{\circ} 53' 47''$ west from Greenwich, intersects the base-line at the corner of Temple Block, in Salt Lake City, Utah, on the parallel of $40^{\circ} 46' 04''$ north latitude, and governs the surveys in Utah.

The *Boise meridian*, longitude $116^{\circ} 20'$ west from Greenwich, intersects the principal base between the Snake and Boise rivers, in latitude $43^{\circ} 26'$ north. The initial monument, at the intersection of the base and meridian, is nineteen miles distant from Boise city, on a course of south $29^{\circ} 30'$ west. This meridian governs the surveys in Idaho.

The *Mount Diablo meridian*, California, coincides with longitude $121^{\circ} 54'$ west from Greenwich, intersects the base-line on the summit of the mountain from which it takes its name, in latitude $37^{\circ} 53'$ north, and governs the surveys of all central and north-eastern California and the entire state of Nevada.

The *San Bernardino meridian*, California, longitude $116^{\circ} 56'$ west from Greenwich, intersects the base-line at Mount San Bernardino, latitude $34^{\circ} 06'$ north, and governs the surveys in southern California lying east of the meridian and that part of the surveys situated west of it which are south of the eighth standard parallel south of the Mount Diablo base-line.

The *Humboldt meridian*, longitude $124^{\circ} 11'$ west from Greenwich, intersects the principal base-line on the summit of Mount Pierce, in latitude $40^{\circ} 25' 30''$ north, and controls the surveys in the north-western corner of California lying west of the coast range of mountains and north of township 5 south of the Humboldt base.

The *Willamette meridian* is coincident with longitude $122^{\circ} 44'$ west from Greenwich, its intersection with the base-line is on the parallel of $45^{\circ} 30'$ north latitude, and it controls the public surveys in Oregon and Washington.

The *Montana meridian* extends north and south from the initial monument established on the summit of a limestone hill, eight hundred feet high, longitude $111^{\circ} 40' 54''$ west from Greenwich. The base-line runs east and west from the monument on the parallel of $45^{\circ} 46' 27''$ north latitude. The surveys for Montana are governed by this meridian.

The *Gila and Salt River meridian* intersects the base-line on the south side of Gila River, opposite the mouth of Salt River, in longitude $112^{\circ} 15' 46''$ west from Greenwich, and latitude $32^{\circ} 22' 57''$ north, and governs the public surveys in Arizona.

The *Indian meridian* intersects the base-line at Fort Arbuckle, Indian territory, in longitude $97^{\circ} 15' 56''$ west from Greenwich, latitude $34^{\circ} 31'$ north, and governs the surveys in that territory.

The *Wind River meridian* governs the subdivisional surveys within the Shoshone Indian Reservation, in Wyoming.

The *Uinta special base and meridian* govern the surveys of the Uinta Indian Reservation, in Utah.

The *Navajoe special base and meridian* control the surveys of the Navajoe Indian Reservation, in New Mexico and Arizona.

The *Black Hills meridian* is coincident with the west boundary of South Dakota, on the 27° of longitude west from Washington, and intersects the base-line in the parallel of 44° north latitude; it governs the surveys in the south-western corner of South Dakota.

The *Grand River meridian* and base-line govern the subdivisional surveys for allotment to the Ute Indians, in Western Colorado.

The *Cimarron meridian*, coincident with the eastern boundary of New Mexico, or 103° meridian of longitude west from Greenwich, intersects the base-line on the parallel $36^{\circ} 30'$ north latitude (the north boundary of Texas), and governs the surveys in the narrow strip of Oklahoma lying between Kansas and Colorado on the north, Texas on the south, and New Mexico on the west.

V. Convergence of Meridians.

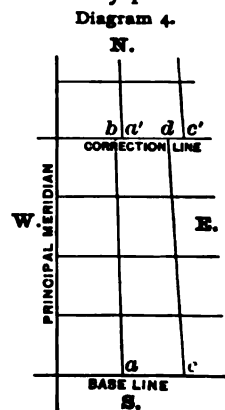
In consequence of the convergence of meridians, townships accurately surveyed are not perfect squares, but are longer upon the southern than upon the northern boundary.

If the township corners upon a base-line are exactly six miles apart, the townships surveyed northward grow less and less as the distance from the base-line increases, and those surveyed southward grow larger. Hence the necessity of standard parallels, or *correction-lines*, to prevent the errors from becoming so great as to destroy the value of the system.

Upon these *correction-lines* the township corners are carefully placed at distances of six miles apart.

The convergence of meridians is greater in the higher latitudes; but at latitude 42° it is about half a rod to a mile. Supposing the surveys to be perfectly accurate, and the correction-lines to be twenty-four miles apart, the convergence of the meridians will then be about twelve rods, and there will be a double set of township corners, as illustrated in the following diagram, in which the convergence of the meridians is greatly exaggerated to make it evident to the eye.

Explanation. — In consequence of the convergence of meridians, a line run due north from *a* strikes the correction-line at *b* instead of at *a'*. Double township corners are consequently established at *b* and *a'*, and so on, their distance apart increasing with their distance from the principal meridian.



Lands are legally advertised in the following way: —

"The south-east quarter of the south-east quarter of the north-west quarter of section thirty-five in township twenty-nine north, of range seven east of the fourth principal meridian, containing ten acres more or less."

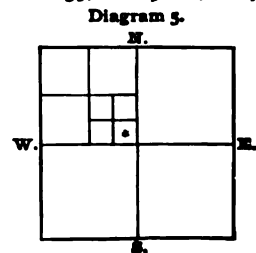
The above is often abbreviated thus: —

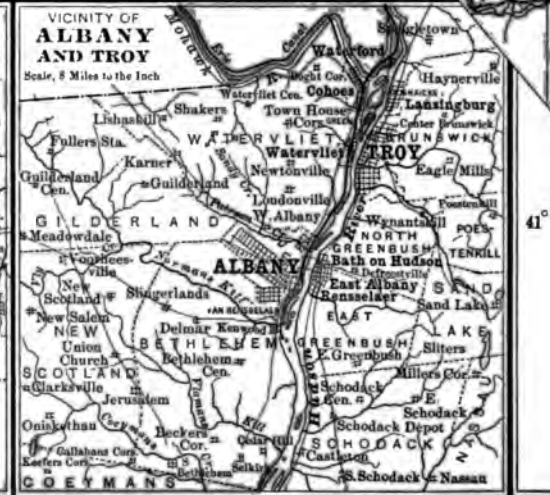
"The S. E. $\frac{1}{4}$ of the S. E. $\frac{1}{4}$ of the N. W. $\frac{1}{4}$ Sect. 35, T. 29 N., R. 7 E. of the 4th p. m."

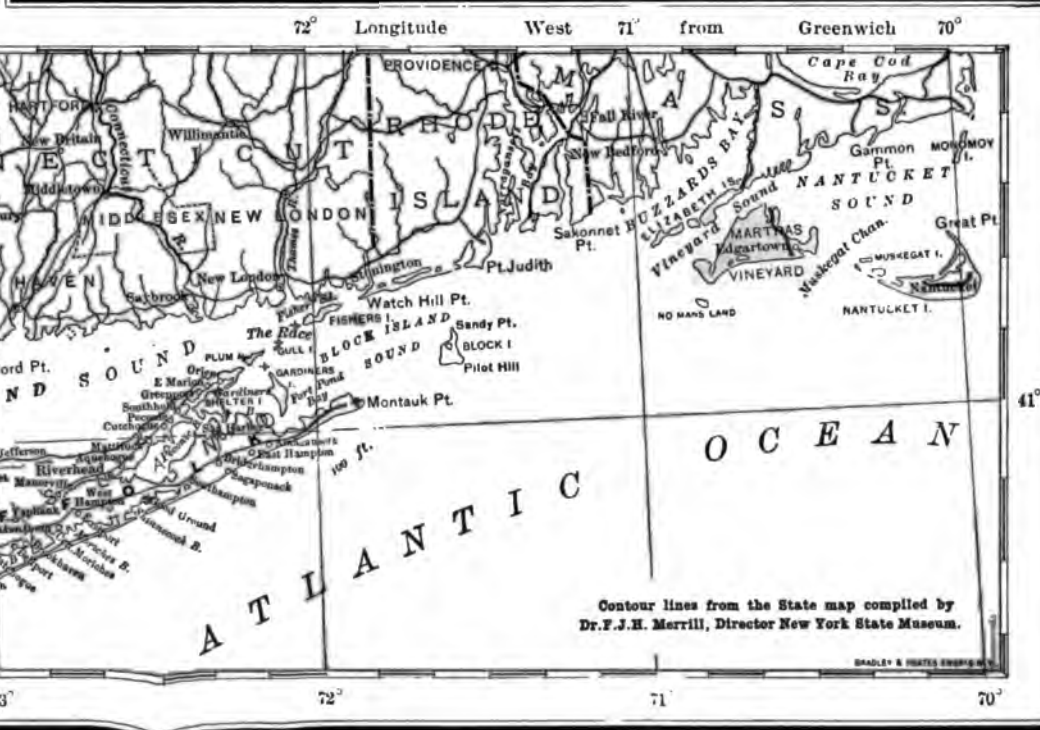
Supposing the annexed drawing to represent the Section 35 described, the star (*) shows the position of the lot advertised.

The proper description is found by consulting the records of the land-offices, or the deed by which the title was originally conveyed by the government.

These records are presumed to be correct, and the only appeal from them is to the Commissioner of the General Land Office, the Secretary of the Interior, and ultimately to the President of the United States.







Contour lines from the State map compiled by
Dr. F. J. H. Merrill, Director New York State Museum.

ing, and descends in a series of broad terraces, running east and west, to the plains bordering Lake Ontario. The plateau ends with an irregular but well-defined escarpment on its northern face.

What important river valley extends more than half way across the eastern end of the state? What other river valley unites with this on the west?

In that part of the state drained by the Susquehanna, extending from Steuben county to Orange county, is a lowland region which embraces many fertile valleys and rich farming lands, with flourishing cities and towns.

The Mohawk valley is 100 miles long, but nowhere very wide. In connection with the Hudson valley it affords the lowest passage, south of Lake Champlain, through the Appalachian highland from the Atlantic seaboard to the Great Lakes. The Hudson valley is also quite narrow, but its superb scenery, agricultural wealth, manifold industries, and historical associations, all combine to make it one of the most famous valleys in the world.

The surface of Long Island is mostly level, or slightly rolling, but is broken in the north by low morainic hills. On the north shore are fine harbors, while summer residences occupy the bluffs. Along sandy beaches of the southern shore are numerous summer resorts, of which the most noted is Coney Island. At the entrance to the Narrows, between Long and Staten islands, stands Fort Hamilton. Fort Lafayette, on the Narrows, was a famous military prison during the civil war.

Staten Island, in New York Bay, is about 14 miles long, and has an area of nearly 60 square miles. It comprises the borough of Richmond (a part of New York city). What waters separate it from New Jersey? The surface, especially in the northern part, is hilly. Forts Wadsworth and Tompkins occupy an eminence commanding the Narrows, opposite forts Hamilton and Lafayette.

Manhattan Island, at the head of New York Bay, is $13\frac{1}{2}$ miles long, and about $2\frac{1}{4}$ miles in extreme width. At its southern extremity the surface is low, but towards the north it rises in rocky ridges culminating in Washington Heights, 238 feet above sea level. Its area of about 22 square miles is occupied by the borough of Manhattan, the oldest and most populous part of New York city.

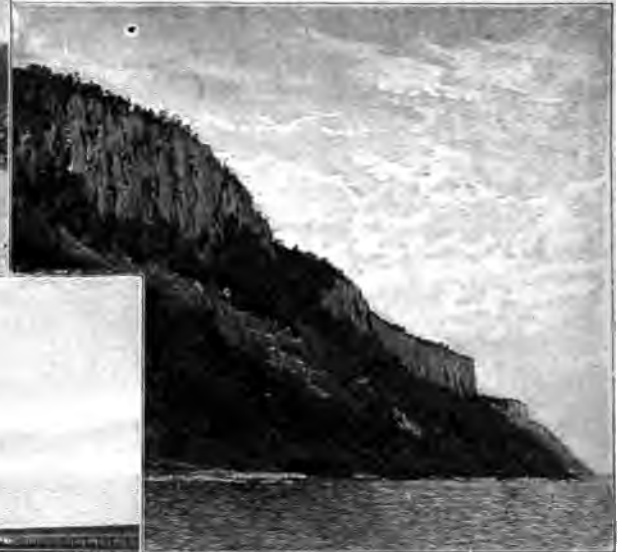
Of the neighboring small islands, Hart, Randalls, Warda, and Blackwells, in the East River, belong to the city, and on them are some of its benevolent, reformatory, and penal institutions. Governors, Ellis, and Bedloe (or Liberty) islands, in New York Bay, are the property of the United States government. The islands of the Atlantic region contain almost half the population of the state.

Drainage. Name the two longest rivers wholly within the state. What parts of the state do they drain? Into what do their waters finally flow? What other important rivers which take their rise in New York are parts of the Atlantic system? What part of the state is drained by rivers of the St. Lawrence system? What river is a part of the Mississippi system? In what state does this river rise? Describe its course in New York.

Hudson River — The Highlands.



From New York Bay the Hudson River is navigable for large steamers to Troy, 150 miles. Its total length is about 300 miles, but above its junction with the



The Palisades.

Mohawk it is quite small. The famous beauty of its scenery culminates in the grandeur of the Highland gorge and the stateliness of the Palisades. It is one of the great commercial water

ways of the world. Below Albany its width varies from 300 to 700 yards and more, while its fall in the last hundred miles of its course is not more than 5 feet. Each winter great harvests of ice are gathered into the ice houses on its banks.

What is the chief tributary of the Hudson? In what county does it rise? At what city does it empty into the Hudson? The total length of this river is about 175 miles; but it is obstructed by falls and shallows, and is not navigable.

What river forms part of the boundary between New York and Pennsylvania? What river derives a part of its waters from Otsego and Schuyler lakes? At what point does it finally pass into Pennsylvania? What tributary does it receive from the west just below this point? What part of the state is drained by the rivers last mentioned?

What part of the state is drained by the Allegheny? What lake has outlet through one of its tributaries? What river connects lakes Erie and Ontario? In what direction does it flow? Where is the source of the Genesee River, and into what does it flow? What other important rivers flow into the same body of water?

Beginning at the western boundary of Chautauqua county, trace the



Scene at Coney Island.

watershed of the St. Lawrence system. About how much of the state is drained by streams belonging to this system?

Waterfalls. The numerous waterfalls of New York are striking features of its natural beauty. They also furnish great motive power. A number of them are widely noted, and those of Niagara are the most celebrated in the world.

The drainage of the Great Lakes west of Ontario, flowing down the Niagara River over a rocky bed, at length descends 40 feet in half a mile. At the rapids thus caused the river becomes a broad and turbulent flood. Divided by Goat Island, it plunges in two mighty falls to the abyss below. On the east side is the American Fall, 167 feet, and on the west the Canadian or Horseshoe Fall, 158 feet, in perpendicular height. Electric power generated by means of the falls is distributed to various points.

There are several remarkable waterfalls in the Genesee River, the head waters of which are 2500 feet above sea level. Trenton Falls, near Utica, are in West Canada Creek. In Watkins Glen, at the head of Seneca Lake, are several cascades. Taughannock Falls, near the west shore of Cayuga Lake, and at its head Ithaca Falls; Kaaterskill Falls, in the Catskill Mountains; Glens Falls, in the upper Hudson; Cohoes Falls, in the Mohawk—these and others, also noteworthy, add to the picturesque beauty of the state.

Lakes. What three border lakes belong to the St. Lawrence system? Which of these is of the greatest importance, commercially, to New York? Why? Which has the most extensive coast line within the state?

As the international boundary between the United States and Canada passes along the middle of lakes Erie and Ontario, portions of them lie within this state. They are navigable for large vessels, and hence are of great commercial importance. The boundary between New York and Vermont follows the middle of the deepest channel of Lake Champlain. This lake is remarkable for its beauty and its historic interest.

More than 350 miles of the shores of the lakes above mentioned are in New York. In the Adirondack region are the picturesque Saranac and Placid lakes, and Lake George, a favorite resort, noted for its fine scenery. All have outlets into Lake Champlain. What lakes lie in the plateau region south of Lake Ontario? From their shapes and relative positions, these lakes are sometimes called the Finger Lakes. What important rivers form outlets for these lakes?

The Finger Lakes are among the most beautiful in the state. They are striking features of a country rich in scenery and soil, and excelling in industry and thrift. On



Kaaterskill Falls.



Watkins Glen.

their waters hundreds of vessels sail; immeasurable water power is furnished by their inlets and outlets, falling from level to level; the landscapes they adorn are types of beauty found nowhere else in our country.

Chautauqua Lake, in Chautauqua county, about 1300 feet above sea level, is 8 miles south of Lake Erie. On its shores the Chautauqua Assembly holds its annual meetings.

Climate and Soil. The position of New York, with the great extent and variety of its surface, involves an unusual range of climate. It is coldest in the Adirondack region, where the winters are long and severe, and the summers cool. In the lower Hudson and Long Island regions the climate is milder and more equable, being moderated by the ocean. It is also modified near the lakes.

The mean temperature of the state approximates in winter 28°; in summer, 69°; for the year, 49°. On the whole, the climate is temperate and healthful.

The mean annual rainfall is about 40 inches. It is well distributed through the year, and throughout the state. Severe droughts are rare.

The soil is generally fertile, though varying in different localities. The Hudson and

Mohawk valleys and the lowlands which border the shores of Lake Ontario are especially productive. The Long Island soil is mainly of good quality, and is cultivated with profit. The highland regions are well adapted for grazing, and by skillful cultivation are often made to yield good crops.

Forests. Many parts of the state are still covered with forests. Not only in the Adirondack region, but in some of the southern counties there are heavy growths of pine, spruce, hemlock, and other evergreens. Hickories, oaks, chestnuts, maples, basswoods, and elms abound, and are widely distributed.

The state forest lands, mostly in the Adirondacks, are protected by laws intended to secure the natural and regular flow of streams, to preserve the attractiveness of forest regions as summer resorts, and to foster lumbering and other industries which depend on the continual supply of timber.

Animals. Most of the large wild animals, once so numerous, have disappeared. Black bears, panthers, and wildcats are still sometimes found in the mountains. Under the protection of game laws, deer in the Adirondacks have increased. In some of the forests small game of many kinds is abundant.



Salt Works at Syracuse.

RESOURCES AND INDUSTRIES.

Agriculture. Except in the upper mountain districts and the forest lands of the north, no parts of the state are unfit for cultivation. More than half its area is improved land, much of which is naturally fertile.

About 400,000 people, or one fifth of the working population, are engaged in agriculture. In the value of live-stock and dairy products, the state ranks high. Excellent pasture in the highland country supports many cattle and sheep. The wool clip is large. Great quantities of cheese are made in the factories of the Mohawk valley. Delaware county is noted for its butter. In the valley of the Mohawk, hops and broom corn are valuable crops. Cereals—corn, oats, wheat, rye, and barley—are grown in different sections, but especially on the rich terraces and lowlands of the west. Grapes and other fruits are cultivated in the central and western lake regions, in the Hudson valley, and on Long Island. Other important products are hay, tobacco, buckwheat, potatoes, beans, and maple sugar. No other state excels New York in the number of its nurseries. Seed farms, the cultivation of small fruits and garden vegetables, and the supply of milk for cities give employment to many persons.

Mining, Quarrying, etc. Rich deposits of iron ore have been found in different parts of the state. Those in the



An Oil Refinery, New York.

Lake Champlain districts are the most extensive. The hard Potsdam sandstone is widely used for paving and building. Limestone is abundant in almost every section. Gypsum is quarried in some of the central and western counties; marble, in Westchester county; flagstone, in many of the southern counties. Cement and a variety of building stones and clays are found in various places. Petroleum wells in Allegany and Cattaraugus counties yield much oil. Natural gas is obtained in several counties.

Mineral springs are found throughout the state. The salt springs of Onondaga, Wyoming, and Genesee counties are among the most valuable in the world. In several of the western counties rock salt is mined. New York is the greatest salt-producing state in the Union.

Manufactures. New York is the leading state in manufactures. The distribution of water power, and the facilities for transportation by lake and river, railway and canal, make most favorable conditions for the growth and permanence of these industries.

Among the principal manufactures are clothing, machinery, agricultural implements, flour and meal, cotton and woolen goods, tobacco and cigars, leather, boots and shoes, railway cars, wagons and carriages, liquors, sugar and molasses, iron and steel, silk goods, lumber and woodwork, hardware, pottery, bricks, refined petroleum, furniture, and paper. An enormous industry is that of printing and publishing. Shipbuilding is carried on extensively.

Fisheries. The fisheries of the lakes, rivers, and coast afford employment to many men, and are important sources of food supply. By means of hatcheries, under state care, the streams and lakes are kept stocked. Fishing is regulated by law.

Shad are taken from the Hudson; whitefish, from Lake Ontario; bluefish, mackerel, oysters, etc., from the bays of Long Island and neighboring waters. At the eastern end of Long Island are the headquarters of the menhaden fishery. These fish are much used in the manufacture of oil and fertilizers.

In Great South Bay of Long Island are found the favorite oysters known as *Blue Points* (so called from Blue Point on that bay), and also excellent clams.

Commerce. The commercial supremacy of New York is undisputed. It has only one important seaport, but the



A Printing Establishment, New York.

Many slaves had already been freed in the state when slavery was finally abolished here in 1827.

In the civil war—1861–65—New York contributed to the cause of the Union millions of money and almost 500,000 men.

The population of New York in 1698 was about 18,000. In 1800 it was 589,051, and in 1880, 5,082,871. By the state enumeration of 1892 it was 6,513,343. Because it is the first among the states in population, wealth, and commerce, New York is called the Empire State.

GOVERNMENT.

The state constitution was adopted in 1777, and revised constitutions in 1822, 1846, and 1894.

The legislature consists of a senate of 50 members, elected for two years, and an assembly of 150 members, elected for one year. The legislature meets annually on the first Wednesday in January.

The executive power is vested in a governor, lieutenant-governor, secretary of state, comptroller, treasurer, attorney-general, and state engineer and surveyor, all elected by the people for two years.

The state superintendent of public instruction is elected by the legislature for 3 years. The governor, by and with the advice of the senate, appoints many administrative officers. Among them are the superintendents of public works, banks, and state prisons, commissioners of agriculture and civil service, and those constituting the boards of health, charities, and the like.

The judicial power is vested in a court of appeals, consisting of 7 judges, and a supreme court with 76 justices, all elected for 14 years. Each county has a judge (Kings county has two), elected for 6 years. There are also surrogates, justices of the peace, police magistrates, and other minor judicial officers.

The state contains 61 counties, and each county (except New York, Kings, Queens, and Richmond) is subdivided into towns. The towns contain many villages, of which about 400 are incorporated. Cities are classified by the constitution. Those having 250,000 or more inhabitants are of the first class; over 50,000 but under 250,000, of the second; all others, of the third. New York and Buffalo are the only cities of the first class.

The chief executive of a city is a mayor. In most of the cities the mayor and the aldermen constitute the main representative and legislative body, called the common council. The government of the city of New York differs in some important respects from that of any other. The cities of the state contain about two thirds of its population.

New York has 2 senators and 34 representatives in Congress, and 36 votes in the electoral college.

EDUCATION.

In 1795 the legislature passed an "act for the encouragement of schools," which was the first statutory enactment for a public school system in the state.

The office of superintendent of common schools was created by the legislature in 1812, and the public school system remained under direction of this office until 1821, when it was transferred to the control of the secretary of state. There it remained until 1854, when the present department of public instruction was created to perform the duties originally vested in the state superintendent of schools. The chief of this department is the superintendent of public instruction.

There are boards of education in cities and in union free school districts. City superintendents are elected or appointed to supervise the schools in cities. Outside of cities, school commissioners are elected with power to divide their dis-

Monument to the Captors of Major André.



Washington's Headquarters, Newburgh.



Sea Battery, West Point.

tricts into school districts, each of which elects local officers to transact its business.

In the towns of the state there are over 11,000 school districts; more than 30,000 licensed teachers are employed; instruction is provided for about 1,500,000 children. There are more than 600 union free school districts, having larger functions than the common school districts. At Albany is the State Normal College. State normal schools are located at Brockport, Buffalo, Cortland, Fredonia, Geneseo, New Paltz, New York city (Jamaica), Oneonta, Oswego, Plattsburg, and Potsdam.

The University of the State of New York, established in 1784, is governed by a board of 23 regents, of whom 19 are elected for life by the legislature, while the governor, lieutenant-governor, secretary of state, and superintendent of public instruction are ex officio regents. This board has supervision of all incorporated colleges, universities, technical and professional schools, academies, museums, libraries (other than common school libraries), university extension centers, and various other institutions or agencies of education, and has power of visitation of the high schools and academic departments of union free schools maintained by general taxation.

At West Point is the United States Military Academy, founded and maintained by the Federal government.

of Art, and the Museum of Natural History, in the borough of Manhattan, are free to the public.

The public parks comprise thousands of acres. Central Park, near the center of Manhattan Island, is one of the most extensive and beautiful pleasure grounds in the world. Prospect Park, in the borough of Brooklyn, has a fine elevated situation, commanding a wide view of the surrounding region. Other well-known pleasure grounds are the Battery, at the south end of Manhattan Island, and Riverside Park, which contains the tomb of General Grant. Of the many beautiful cemeteries, the most noted is Greenwood, in the borough of Brooklyn.

New York began its present corporate existence January 1, 1898, by the consolidation of the former city of New York, the cities of Brooklyn and Long Island City, other places on Long Island, and the whole of Staten Island.

The legislative department of the city government consists of a municipal assembly, which is composed of two houses, called the council and the board of aldermen. There is in each borough an inferior legislative body, called the borough board, which is charged with the regulation of purely local affairs. The ordinances of the municipal assembly are carried into effect by the mayor, who is elected by the people for 4 years. The finances are managed by a comptroller, elected for the same term. There are numerous administrative departments, each presided over by an officer appointed by the mayor.

Buffalo, called the Queen City of the Lakes, is the county seat of Erie county. It is situated at the foot of Lake Erie, and on Niagara River, and has a water front of about 7 miles. Its harbor, formed partly by Buffalo River, and protected by piers and breakwaters, is one of the best on the Great Lakes. This and the city's extensive railroad and canal facilities give it commercial advantages seldom equaled. The population of Buffalo according to the state enumeration of 1892 was 278,796; estimated in 1898 at about 400,000.

Buffalo is a great live-stock, grain, and lumber market, and has an immense coal business. Water power from Niagara River and electric power from the falls are used by large manufactories, of which leading products are iron and steel, copper and brass goods, machinery, agricultural implements, lumber, oil, flour, beer, leather, and boots and shoes. The city is lighted by electricity from the power of the falls.

Rochester, the county seat of Monroe county, is on the Genesee River, seven miles from Lake Ontario. As the center of trade for the Genesee valley, and of business interests of still wider scope, it is an important commercial city. The falls of the Genesee furnish vast water power. Population of the city in 1892, 144,834; in 1898, estimated at about 175,000.

Rochester is a great railroad center, and the Erie Canal passes through the city. The surrounding country is a rich agricultural district, and here are the largest fruit and ornamental tree nurseries in the United States. The manufactures include foundry and machine shop products, clothing, flour, beer, tobacco and cigars, shoes, carriages, and furniture.

This city is the seat of the University of Rochester, the State Industrial School, and the Rochester State Hospital for the Insane.

Albany, the county seat of Albany county, is the capital of the state. Its situation on the Hudson, and the railroads and canals which center here, give it great commercial advantages. The population in 1892 was 97,120.

Albany has a large trade in lumber and grain, and manufactures of iron products, carriages, boots and shoes, and many other articles. Here are located the State Normal College, the State Library, the Dudley Observatory, and the Geological and Agricultural Hall.

Syracuse, the county seat of Onondaga county, is an important railroad and canal center. It was long noted for its salt works.

It has many large manufactures, including iron and steel, agricultural implements, machinery, shoes, wagons and carriages, bicycles, soda, and paper. Here is the location of Syracuse University, and of the Syracuse State In-



Memorial Arch, Prospect Park.



Business Block, Buffalo.

stitution for Feeble-minded Children. Population in 1892, 91,994; estimated in 1898 at more than 135,000.

Troy, the county seat of Rensselaer county, is on the Hudson, at the head of tide-water and steamboat navigation, 6 miles above Albany. It is also at the southern terminus of Champlain Canal.

It has great commercial facilities by railroad and canal. Among its numerous manufactories are immense iron and steel works, and the city is noted for the manufacture of shirts, collars, and cuffs. In 1892 the population was 64,986; in 1898, estimated at 67,000. Troy is the seat of the Rensselaer Polytechnic Institute.

Utica, the county seat of Oneida county, has a fine elevated situation on the Mohawk River. It is an important railroad and canal center, is surrounded by one of the richest agricultural regions of the country, and is a leading market for dairy products.

Gloversville is in Fulton county. Here are large manufactures of gloves and mittens, and of leather.

Rome, in Oneida county, is on the site of Fort Stanwix. It has locomotive and machine works, brass and copper works, iron mills, knitting mills, and a variety of other manufactories. The city is underlain by natural gas.

Ithaca, the county seat of Tompkins county, is at the head of Cayuga Lake, in a beautiful region with many waterfalls. It has a large coal trade, and various manufactures, and is the seat of Cornell University.

Watervliet, in Albany county, on the Hudson, opposite Troy, has a large lumber trade, many manufactures, and is the location of a United States arsenal.

Hornellsville, in Steuben county, is a railroad center, and has many active industries.

Middletown, a railroad center in Orange county, is in a stock-raising and dairying district. Its manufactures are varied. Here is located the Middletown State Homeopathic Hospital for the insane.

Ogdensburg, in St. Lawrence county, has lake and Canadian commerce in lumber, grain, and flour. Boat-building and a number of manufactures are carried on. It is the seat of the St. Lawrence State Hospital for the insane.

Dunkirk, in Chautauqua county, has an excellent harbor on Lake Erie. Here are locomotive works and large lumber mills.

Corning, in Steuben county, has a large coal and lumber trade, terra cotta and brick works, and manufactures of glassware and stoves.

Niagara Falls, in Niagara county, a railroad center and manufacturing city, is much resorted to by visitors to the cataract.

North Tonawanda, in Niagara county, has great railroad and canal facilities, extensive lumber and iron interests, and a variety of industries besides.

Geneva, in Ontario county, at the north end of Seneca Lake, has large nurseries, and a number of manufactures. It is the seat of Hobart College and the State Agricultural Experiment Station.

Hudson, the county seat of Columbia county, on the east bank of the Hudson, manufactures knit goods, car wheels, machinery, and stoves.

Olean is in Cattaraugus county. It has large oil refineries and tanneries.

Rensselaer, in Rensselaer county, is on the Hudson, opposite Albany. Here are railroad shops and manufactories of leather, felt, and shirts.

Little Falls, in Herkimer county, on the Mohawk, has abundant water power and a variety of manufactures. It is a noted cheese market.

Johnstown is the county seat of Fulton county. Its leading industries are the manufacture of gloves and mittens and the dressing of leather.

New Rochelle, in Westchester county, is an attractive residence city, and also has various manufacturing industries.

Below are mentioned the larger villages of the state, with some of their leading manufactures, etc.

Albion, county seat of Orleans county, in fruit region; stone quarries; manufactures. *Ballston Spa*, county seat of Saratoga county, mineral

springs; paper, leather, axes, and tools. *Batavia*, county seat of Genesee county, agricultural implements and other large manufactures; State School for the Blind. *Canandaigua*, county seat of Ontario county, beautiful village in fruitful agricultural region; lake front; pleasure resort; manufactures. *Catskill*, county seat of Greene county, resort for visitors to Catskill Mountains. *Cortland*, county seat of Cortland county, wire works; wagons and carriages. *Fishkill on the Hudson*, Dutchess county, fine residences; bricks, machinery. *Fort Edward*, Washington county, paper and other manufactures; Collegiate Institute. *Fulton*, Oswego county, worsted, burnishers, paper, tools, carriages.

Glens Falls, Warren county, great water power; paper, lumber, lime, shirts; limestone and marble quarries. *Haverstraw*, Rockland county, bricks; print works. *Hempstead*, Nassau county, residential village; local trade. *Herkimer*, county seat of Herkimer county, lumber, knit goods, paper. *Hoosick Falls*, Rensselaer county, mowers and reapers. *Ilion*, Herkimer county, firearms, typewriters, agricultural implements. *Lansingburg*, Rensselaer county, adjoining Troy, brushes, oil-cloth. *Lyons*, county seat of Wayne county, trade in tobacco, grain, and fruit; silver plate; peppermint distilleries. *Malone*, county seat of Franklin county, woolen goods and clothing; Northern New York Institution for Deaf-mutes. *Matteawan*, Dutchess county, hats, rubber goods, furniture, bricks.

Mechanicville, Saratoga county, paper, hosiery, and other manufactures. *Medina*, in Orleans county, sandstone quarries; fruit and grain market; good water power and a variety of manufactures. *Newark*, Wayne county, fruit industry; seat of the State Custodial Asylum for Feeble-minded Women. *Norwich*, county seat of Chenango county, dairying; carriages, hammers, silk goods. *Oneida*, Madison county, in hop and dairying region; coffins, carriages, and wagons. *Oneonta*, Otsego county, railroad shops; cigars, pianos; a state armory. *Owego*, county seat of Tioga county, railroad center; foundries, planing mills. *Peekskill*, Westchester county, river trade; stoves, bricks, hats. *Penn Yan*, county seat of Yates county, center of a grape district; various manufactures. *Plattsburg*, county seat of Clinton county, lumber and iron trade; manufactures; Catholic summer school; United States military post. *Port Chester*, Westchester county, foundry products, shirts, carriages and wagons; fine residences.

Port Jervis, Orange county, on the Delaware, railroad shops, glass works, and various factories. *Salamunca*, Cattaraugus county, railroad shops; lumber, leather. *Saratoga Springs*, Saratoga county, mineral waters; summer resort. *Seneca Falls*, Seneca county, water power; hydraulic machinery and engines, steam fire engines, pumps. *Sing Sing*, Westchester county, porous plasters, pills, carriages; military schools; a state prison. *Tonawanda*, Erie county, railroad center; lumber interests; manufactures. *Waterloo*, one of the county seats of Seneca county, woolen and flour mills; organs and pianos; nurseries. *Waverly*, Tioga county, in an agricultural and dairying region; varied manufactures. *Whitehall*, Washington county, lumber and coal trade; shipyards; silk goods. *White Plains*, county seat of Westchester county, various industries; Alexander Institute; libraries; scene of a Revolutionary battle.

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